ATHLETIC JOURNAL

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Vol. XXXVII, No. 5 January, 1957

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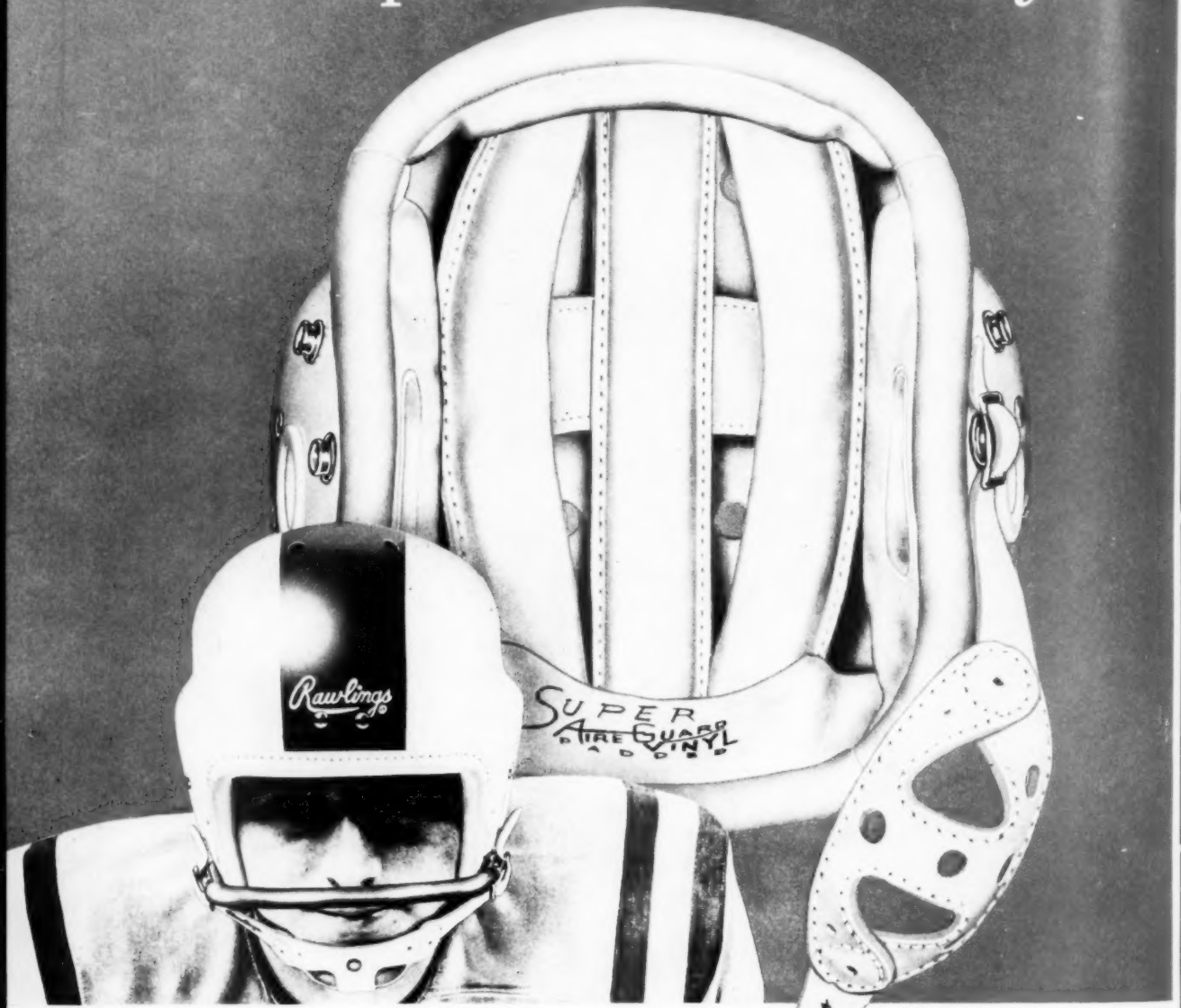

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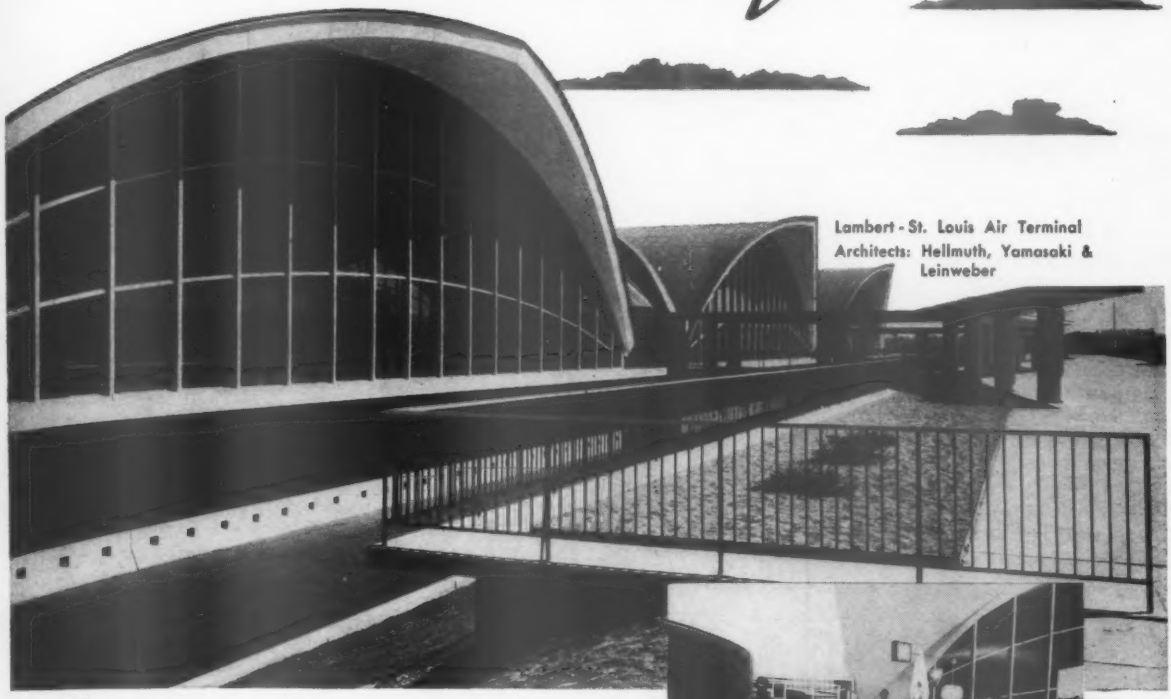

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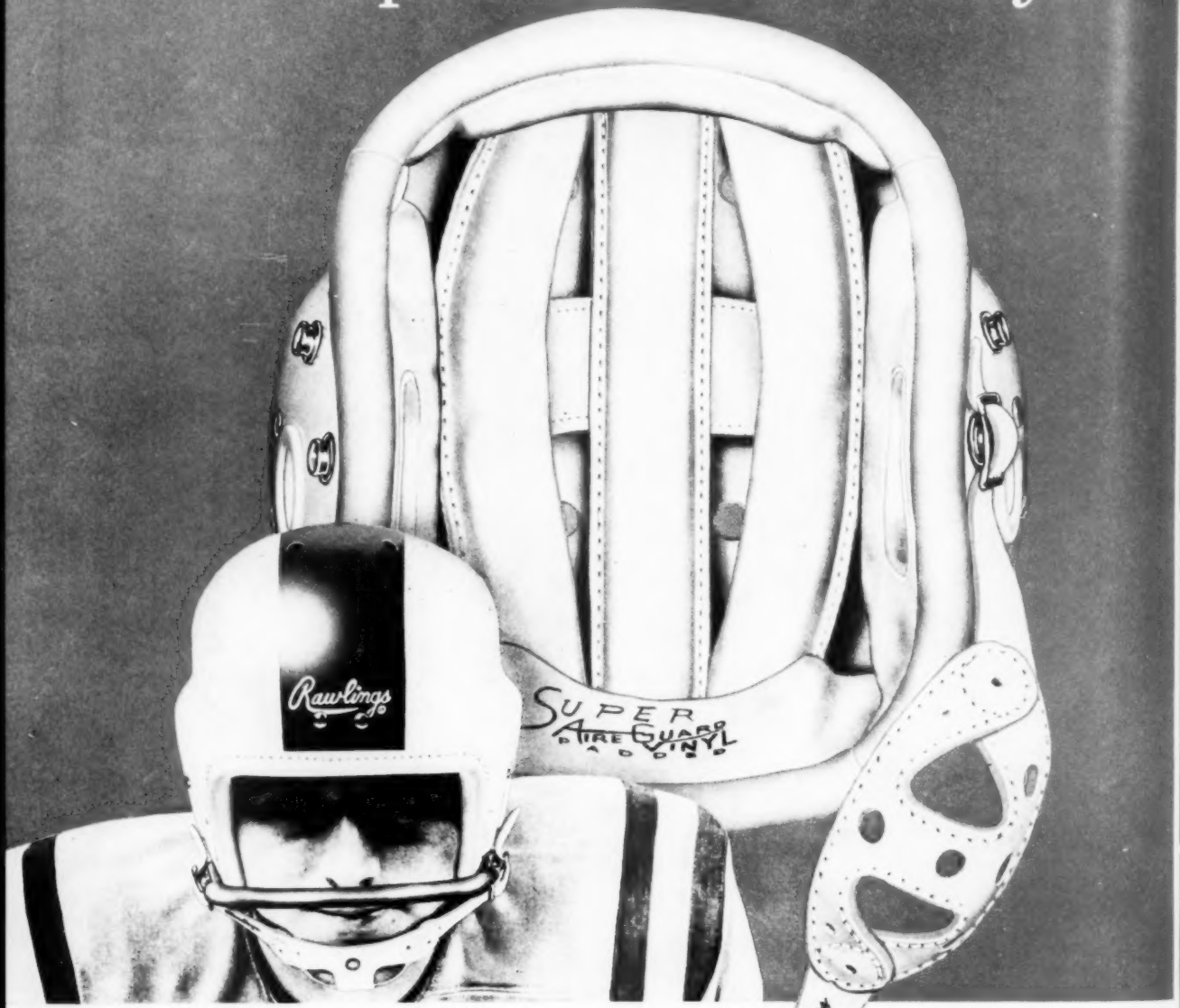

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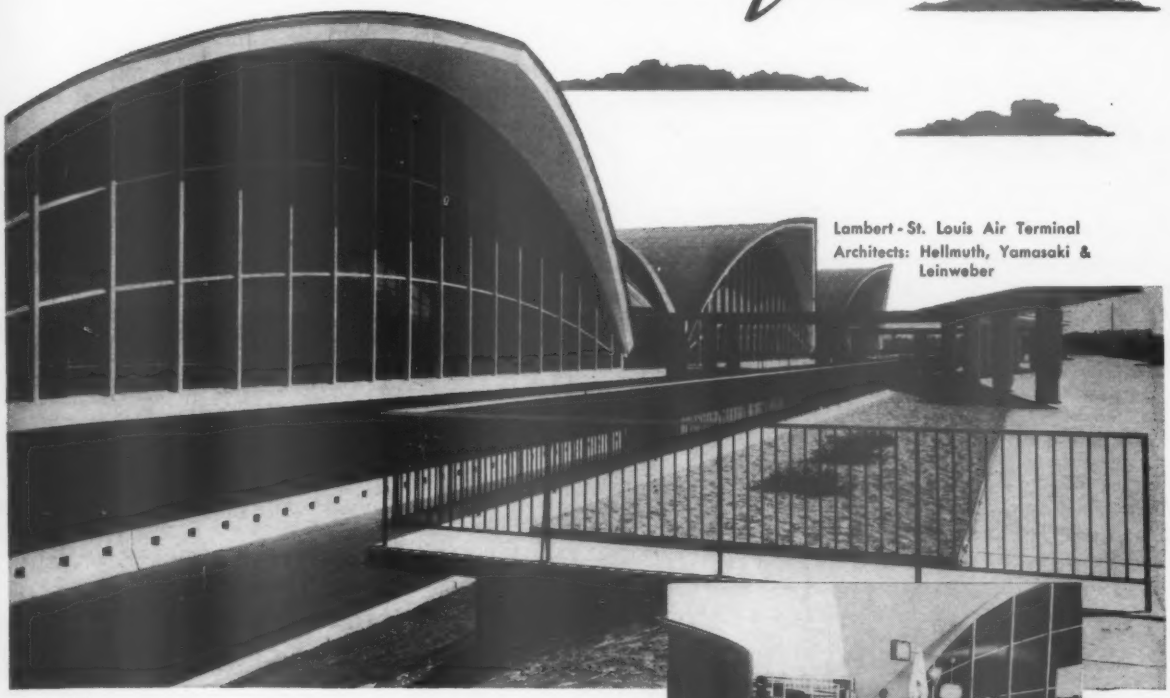

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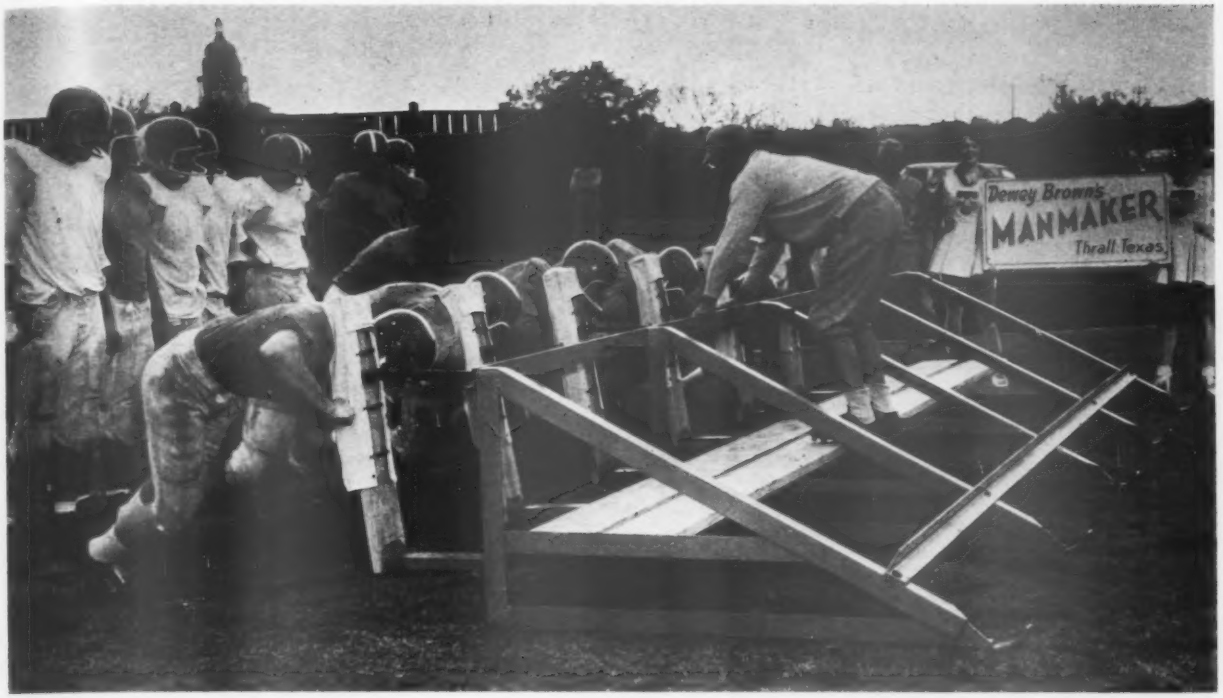
FRONT COVER ILLUSTRATION

This illustration accompanied Donald Weiskopf's article, "Facilities and Equipment in Baseball," which appears on page 42. Because we felt that the illustration could serve as a convenient reminder of the approaching baseball season we decided to use it on the front cover. A few of the items that should be checked before the season gets underway are suggested.

A Look At This Issue and a Glance Ahead

FOR this issue we have turned our attention toward the spring sports of baseball and track. For the latter sport we are running sequence pictures of shot putters, Parry O'Brien and Ken Bantum. Bantum's pictures were taken of his record-breaking throw at the NCAA meet last June. From the high school angle, we are presenting 23 pictures of Jimmy Bowers, national high school record holder in the mile. Our third "For Your Bulletin Board" feature completes this picture-packed issue. All in all, there are 75 coaching pictures in this issue. In addition, there are two articles on facilities which are well illustrated. Inasmuch as we stressed track this month, next month the picture emphasis will be on baseball with two illustrated articles on bunting.



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advice from a noted coach on

Swimming

Robert J. H. Kiphuth, **Swimming Coach, Yale University.** This valuable guide is especially designed for the competitive swimmer and the varsity coach. A large part of the book is devoted to "getting in shape" with a preseason conditioning program conducted out of the water. Special attention to fitness tests, movements, and exercises — with or without apparatus — which develop muscular strength and power. Book reviews all strokes; shows how to develop endurance, speed, and pace. **112 ills.** **$1.95**

Basketball Illustrated

Howard A. Hobson, **former Head Basketball Coach, Yale University.** A guide for the beginner who really wants to learn the game. This book stresses conditioning, familiarity with the rules, individual and group fundamentals, offensive and defensive play. Photographs and diagrams show details on footwork, dribbling, passing, catching, shooting, backboard play, offense and defense of screens, various formations and team plays, etc. Suggestions on how a player can test his own progress. **177 ills.** **$1.95**

scientific attack and defense

Boxing

Edwin L. Haislet, **former Boxing Coach, University of Minnesota and Director, Northwest Golden Gloves.** The basic position, the hitting maneuvers, the fundamental and advanced blows and blocks, and the footwork of good boxing fully described and illustrated. Book details the elements of defense and attack, counter attack, and setups. Suggests how coach and boxer can best train and develop the technique of ring craft and ring generalship. **96 ills.** **$1.95**

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from here and there

TRACK coaches are noted among the coaching profession for their long years of coaching at a given institution. In other words, there aren't many occasions when we can report changes among the track coaches. The East has had an unusually large number of changes in track coaching personnel this year. Jack Warner, whose article appears in this issue, takes over as head coach at Colgate after having served as assistant to Bill Easton at Kansas. Ed Styrna left his job as assistant at Dartmouth to become head coach at Maine and was replaced by Guilford Joyner, former head coach at William and Mary. Joyner competed at North Carolina and was conference high jump champion in 1948 and 1949. In case there is any doubt about the status of athletes as campus leaders, we hasten to point out that of the 23 members of the senior class at Lafayette selected for "Who's Who Among Students," 14 are members of athletic teams and two others are team managers . . . In Kansas the medley relay is a popular event in track meets. Formerly, the two center legs were each 110 yards. By an overwhelming vote of the Kansas coaches this distance has been changed to 220 to conform with the usual distance for the sprint medley . . . There are 20 college field houses which have more than 10,000 seating capacity and eight of these are to be found in the Big Ten. We have given you a tip, now would you care to rate the major conferences according to the average size of their field houses and gymnasiums? The answer appears below.

• • •

THE trend favoring a smaller number of teams in state basketball finals continues to grow. This year Iowa will adopt the so-called Indiana System, whereby supersectionals are held in four locations and only the winners advance to the finals. Iowa will have two classes this year. Last year Illinois adopted the system. Idaho is considering plans to revise its tournament set-up. One plan under consideration involves the four-team arrangement . . . At the conclusion of each sport season there are always a number of coaches who announce their retirement from active coaching. We would like to pay our respects to Lou Little and Don Faurot. Both have contributed much to the game of football . . . Here is the way the conferences rate according to average seating capacity: 1. Big Ten; 2. Big Seven; 3. Atlantic Coast; 4. Skyline; 5. Missouri Valley; 6. Pacific Coast; 7. Southwest; and 8. Southeastern . . . How much has the number of games

(Continued on page 56)

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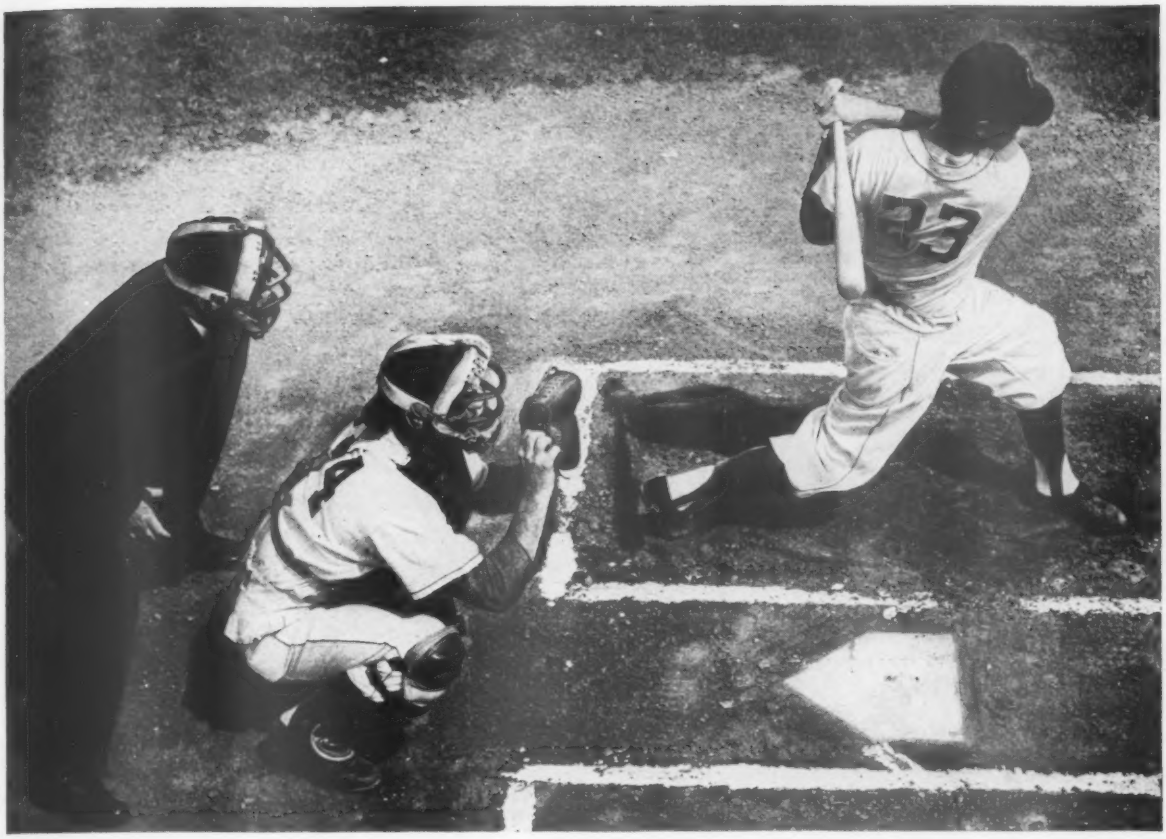

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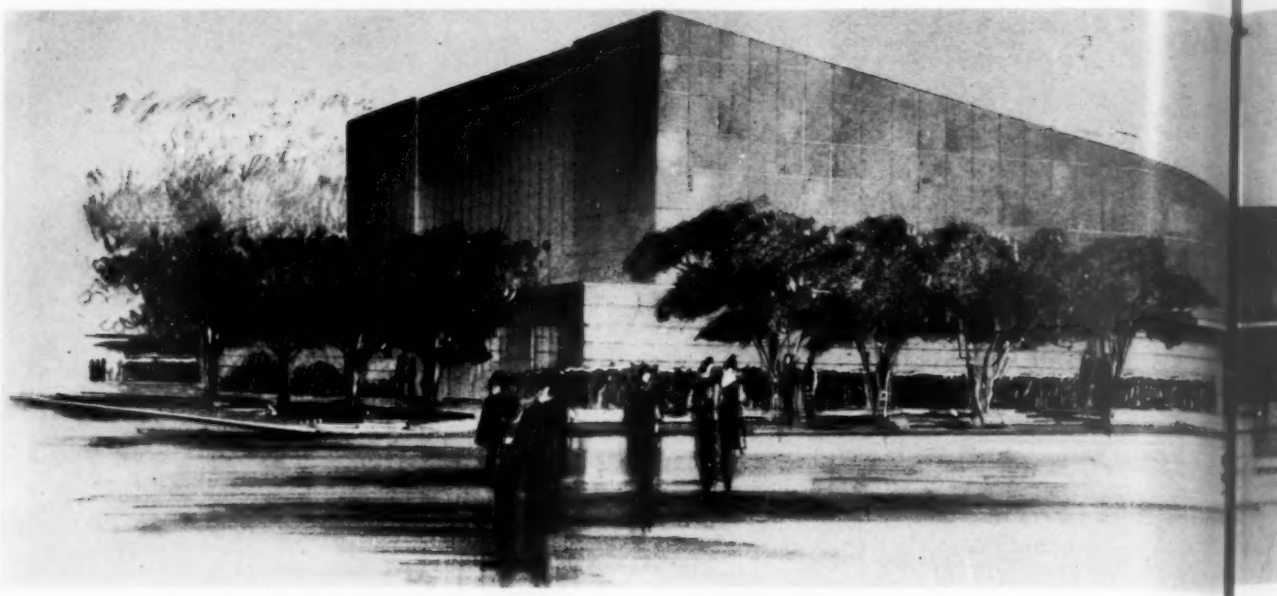


A Basketball Stadium

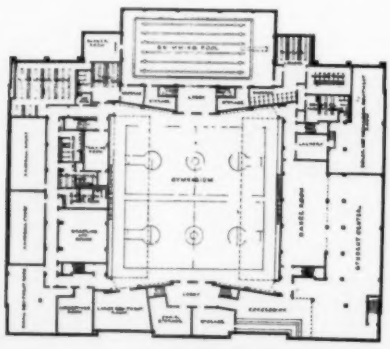
LAST month De Paul University, with special dedication ceremonies, formally introduced its new auditorium-physical education building to the university's family and friends.

With the completion of this building the first step has been taken in the $5,500,000 development program announced in 1953.

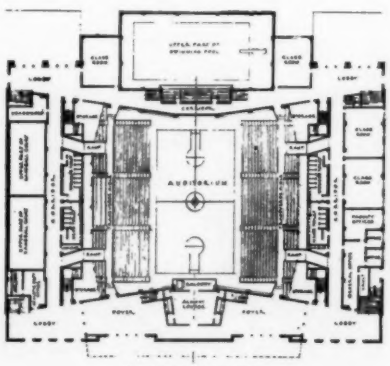
De Paul University, first Catholic university in the state of Illinois, was founded in 1898 as St. Vincent's College and incorporated in 1907 as De Paul University. Located in the city of Chicago, De Paul grew over the years to the point where its facilities could not handle the load. With the postwar growth of graduate and undergraduate programs, the need for expansion was even more keenly felt and thus the development plans were made. In addition to the multi-purpose auditorium, the plans include a well-equipped downtown center; a library building; additions to the liberal arts building and the hall of science.

The auditorium itself will aid greatly in returning to the uptown campus some of the facilities and activities which, through necessity, had spread out and away from the center of the university. The college of physical education, which had been in rental quarters some distance away, will be returned to the campus. The building has classrooms, faculty offices, locker rooms, handball courts, swimming pool, gymnasium, and rooms for wrestling, boxing, and corrective exercise.

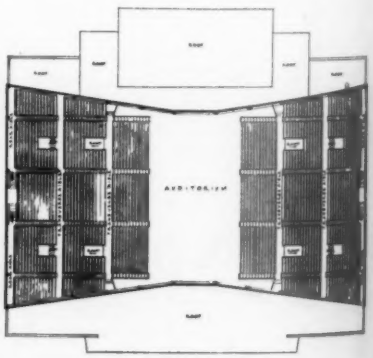
In addition to housing the college of physical education, the multi-purpose values of the new auditorium make it an indispensable unit for on-campus activities long denied the university. It will be used for lectures, assemblies, and graduation ceremonies, as well as academic conferences and seminars at which the university plays host to the community and the world of education. Cultural events presented by the school of music will be held there; such as concerts given by the De Paul Symphony Orchestra, Chorus, and Band, recitals, and vari-



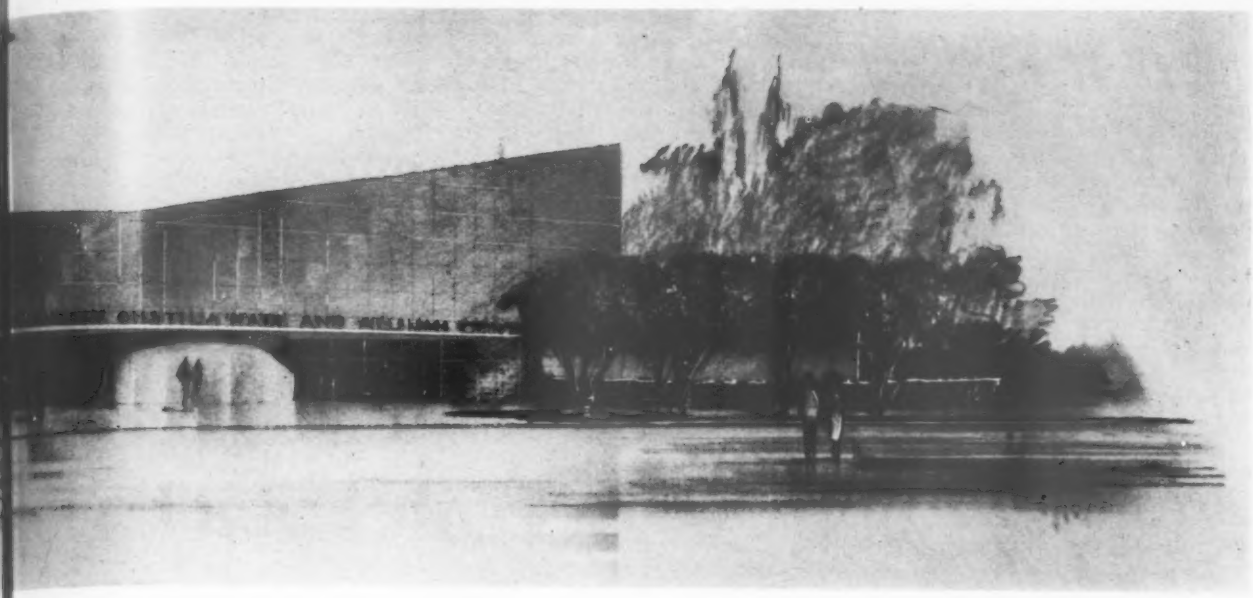
FLOOR PLAN, LOWER LEVEL



FLOOR PLAN, GROUND LEVEL



FLOOR PLAN, UPPER LEVEL



ous music productions. It will be the center for student activities including social events, debates, dramatic presentations, and dances. A student and alumni lounge, with dining and recreational facilities, so long needed on the campus have also been provided for in the new building.

The exterior of the tri-level structure is modern functional architecture. The roof follows the rake or

(Continued on page 44)

Architects — Naess & Murphy, Chicago, Ill.
Folding Bleachers — Fred Medart Products, Inc.
Diving Boards — American Playground Device Co.
Backstops — Fred Medart Products, Inc.
Whirlpool Baths — Dakon Tool & Machine Co.
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The fully equipped training room is large enough to accommodate home and visiting teams, in addition to physical education students.

A built-in draw curtain is used to partition off a part of the training room where Ultra-Violet lamps are used.

Total seating capacity becomes 5,300 when folding bleachers are moved into place for home games of De Paul's Blue Demons.

Modern whirlpool baths were installed in the training room along with other new equipment and facilities.

The 12,100 square foot gymnasium floor provides ample space for the twin, regulation size basketball courts.

The Pitching Machine As a High School Coaching Aid

By Roger Baer
Athletic Director, Santa Cruz, California, High School

A recent innovation in the coaching of high school baseball has been the use of the pitching machine as a teaching aid. A few years ago this device would not have been seriously considered even by the most wealthy school district. Not only was it an extremely expensive piece of equipment, but it was unreliable and temperamental in action. Breakdowns were frequent and repairs could only be made by specialists. These earlier models were bulky and cumbersome and were difficult to set up and adjust. Delivery of the pitched ball was erratic and accuracy was uncertain. With these shortcomings, it was no wonder that pitching machines were not universally accepted even in the major leagues.

During recent years the pitching machine has been improved. It is now a small, compact piece of equipment which can be rolled out and set up in a matter of a few seconds. Operation of these new streamlined models is now practically foolproof. When they have been filled with baseballs, aimed and timed, they will automatically eject the pitches regularly and accurately. The fact that the speed of the delivery can be adjusted from a lob to over 90 miles per hour makes it a valuable adjunct to any class or age level of organized ball.

Along with the technological improvements made on the machines, mass production methods have brought the price within the reach of every school or district budget. Some communities have purchased pitching machines on a cooperative basis, utilizing them for Little and Pony Leagues, American Legion, and high school teams. When we consider the possible service the machine may give to all age groups in a town, it may be figured as inexpensive equipment on a per unit basis. Coaches are rapidly becoming aware of the advantages of the pitching machine. Evidence of this awareness is indicated locally by the fact that four high schools in our immediate area have purchased machines in the past three years, and others will undoubtedly follow the trend.

Granted that the lowered price and the mechanical improvements make the pitching machine a practical acquisition, what are the advantages as a coaching aid to the high school instructor?

Development of Confidence. One of the most important features of the machine is the accuracy of the pitch. When a pitching machine is being used, the inexperienced and less proficient batters may step to the plate with a feeling of confidence. We must accept the fact that there is an inherent fear of being hit present in many young batters. Hitches, head jerks, and other faults are conditioned early when beginners face scatter-armed batting practice pitchers. Due to the emphasis on Little League and other organizations, larger squads and younger boys are trying out for our teams. If these young boys can practice batting technique without worrying about ducking on every pitch, they are bound to become better hitters and will not pick up batting faults which will handicap them throughout their playing careers.

Additional Time for Hitting. Batting practice in the average high school is usually one of the most uneconomically organized phases of the daily practice session. Unless the coach is fortunate in having a jewel for a batting practice pitcher, three-fourths of the time allotted for each session will be wasted because of poor pitching. Many of the batters will swing at bad balls out of desperation. In addition to the fact that poor batting habits are born this way, the coach seldom has time for even the starting nine to practice long enough to appreciably benefit their hitting.

The answer to this problem is the pitching machine which delivers 8 to 12 accurate pitches per minute according to the speed desired by the coach. The batter knows that each pitch will be in the strike area and he is ready to swing accordingly. Consequently, the hitters are going to receive many more opportunities at good pitches. It is also possible for more batters to take a turn at bat. Thus the coach is able to give his substitutes as well as his regulars a chance for daily hitting practice.

Correction of Batting Weaknesses. The fact that the modern pitching machine can be adjusted and aimed so that every pitch hits within inches of the desired target is an important factor in overcoming hitting weaknesses. For example, a boy who is having trouble hitting high inside pitches will receive many more opportunities to correct this difficulty when he is hitting against a mechanical pitcher. By stationing himself behind the cage, the coach can see a batter's reactions to a certain kind of pitch and he does not have to wait until the batting practice pitcher is able to throw to the weak spot. Players who cannot hit fast balls have a chance to swing at pitches faster than Bob Feller could ever throw with the assurance that they will not have to hit the dirt every other pitch. With the coach's help, the more common batting weaknesses, the hitch and the overstride, may be alleviated, and a level swing acquired. The overstride, which seems to be a difficult fault to correct, may be helped through repeated sessions with the pitching machine.

Beginners soon find that they cannot hit against the machine if they stride too far, because the only warning of the coming pitch is the ringing of a bell, or in some cases a flag which rotates, simulating the action of a human arm. At first, this was considered to be a weakness until we saw the reaction of our players. Most of them compensated for the lack of warning by automatically shortening their steps. Others adopted a wide stance, almost completely eliminating the step. In many cases, this adjustment in batting style carried over into the games with a resultant improvement in hitting and striding.

Develop Special Hitting Abilities. The more proficient players may sharpen up their batting eyes and also add a few tricks to their batting techniques through daily practice with the pitching machine. Place hitting is seldom seen in high school baseball, probably because of the lack of time

(Continued on page 54)

Get faster, safer batting practice with

Power Pitcher

Fires 8 automatic strikes a minute!

George Wolfman, Baseball Coach, University of California, shown with his Power Pitcher

Power Pitcher hurls automatically with accuracy and controlled speed. Permits concentration on batting that otherwise would be too time-consuming. Every player gets all the practice he needs. Machine can be instantly adjusted to change of speed and to pitch across the plate, high, low, inside or out. Sends outfield flies or infield grounders.

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Training and Conditioning a Record-Breaking Miler

By William Townes

Head Track Coach, DeKalb, Illinois, High School

IF we were to report all of the experiences in the running career of Jim Bowers, current holder of the Interscholastic mile run record, the article would be too lengthy; therefore, a description of some of the events which contributed to his success will be presented. The fact that Jim possessed unusual running ability was obvious from the first time he ran as a 14-year-old freshman from DeKalb, Illinois, High School. During the following four years his time in the mile run decreased steadily as he developed the precision and style which led him to a climactic 4:16.1 in his final race as a high school runner.

Interest in the mile run was at a peak during the period Bowers was in high school because of the number of times the four-minute barrier was broken. It may be only a coincidence that Jim Bowers was working toward a new high school standard at the same time.

He began running as a half-miler and after a few races was shifted to the mile because he was needed in that spot. Characteristically, Jim made the change without comment, and from that time on placed all his emphasis on the mile.

Over the four-year period Bowers' training and conditioning followed a definite pattern which was based upon five considerations. First, he had to learn to run against the clock because the schedule and competition from the schools in this area would never guarantee that any other kind of running would be productive. Second, we were certain Jim would follow a planned program to a successful conclusion. He was an excellent student and his parents were vitally interested in his progress. Therefore, the coaching staff could afford to look far ahead and plan for a gradual development. This point was important because it kept the planned improvement well within his reach and permitted him to work longer on each step so he could learn the best way to run. Third, since Jim was very young for a distance runner when he started his high school track career, we decided that he should not be pushed too hard. Therefore, his daily workouts were never very long or exhausting. Fourth, each day's work was determined on the track after the warm-up so the schedule for the day could be adjusted to fit the current situation. Fifth, and most important, other than the warm-up and calisthenics, the only running Jim did during practice was at a pace which would produce the best time that could be expected of him for the entire season.

As he progressed, Jim became an excellent judge of pace. He ran only three poor races in four years, all due to errors in pace judgment. The usual problems encountered by steady pace runners were met and solved because Jim learned how to trail the field in the early stages of the race, and how to maintain his pace as he passed his opponents later.

Because of the cautious approach we used, the training program did not include any overdistance work. The only practicing Jim did that might be compared to overdistance was an occasional day of jogging and sprinting on the golf course. We felt that endurance could be developed by a different method and he would not become mentally fatigued by running too much.

Our daily planning of workouts was a matter of expediency. The spring weather in northern Illinois is variable and unpredictable. We usually have a warm week late in March, a blizzard early in April, and thunderstorms until early in May. Therefore, track coaches in this area cannot plan a rigid schedule without an indoor track facility. DeKalb High School has a poor running surface and a heavy rainfall would make it impossible to follow a definite routine of practice. Each practice was started with a brief conference as to what the day's work would be.

The last point we mentioned in the outline was that Jim practiced at the same pace all season. When each season started, a time was selected which would be the goal that Jim would try to accomplish for the year, and from the first day of practice to the last, the pace used for the practice workout remained the same. By the time Bowers began to hit the peak of conditioning his sense of timing was developed to the point where he could hold a steady pace, regardless of the pace the other runners were using. Competitive races during the period of building up endurance were run at a slower pace than the practiced one. However, Jim still tried to run each lap in the same time, and the time

BILL TOWNES earned seven letters in football and track at Southern Illinois University, captained the football team, and was captain-elect in track before leaving to serve in the air force. He coached basketball at Anna-Jonesboro High School, before assuming his present duties at DeKalb. In addition to track, he coaches football and has compiled a 21-5-1 record over the past three seasons. Townes also coaches the swimming team.

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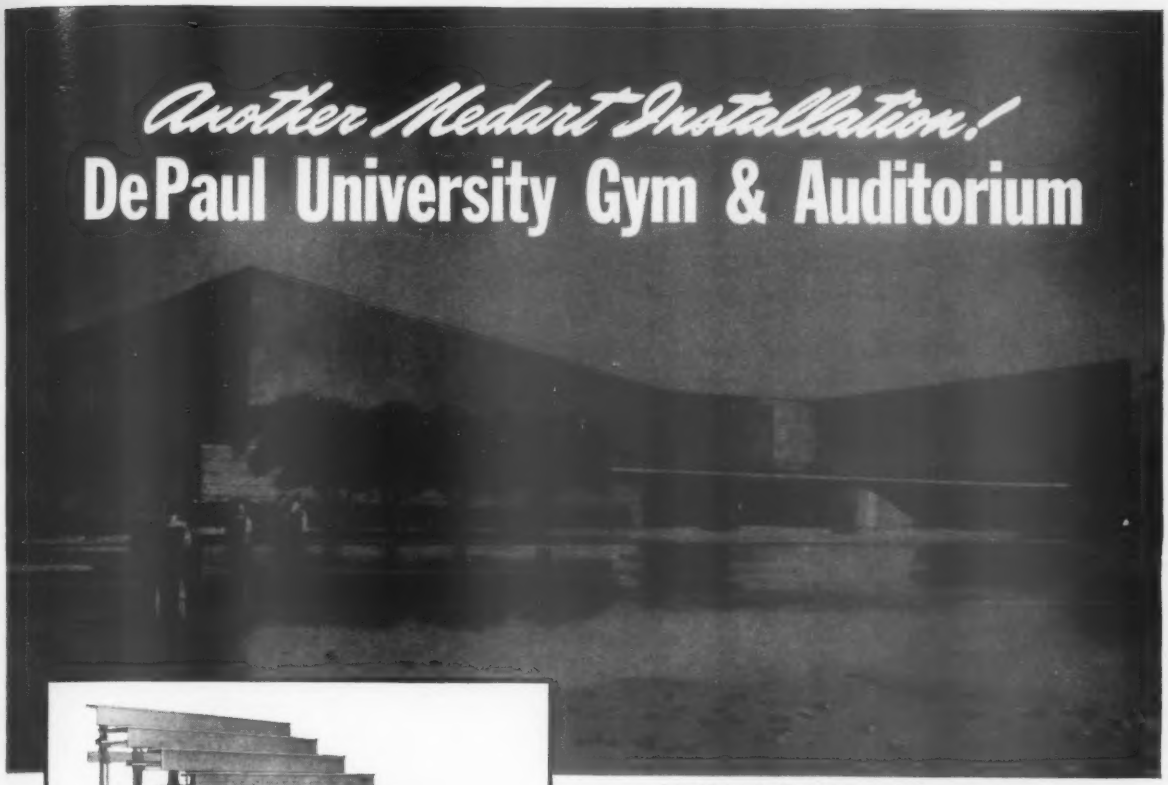
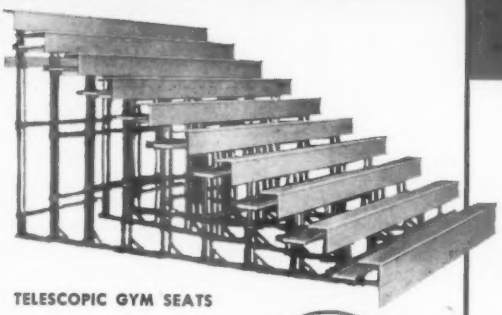


DePaul University, Charles J. Handy, Sr., Auditorium, Chicago, Ill.
Architects & Engineers: Naess & Murphy, Chicago, Ill.



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Illustrations 1 through 12 show Bowers' erect carriage and the power of his leg drive. His hands come through higher than hip level and across his chest slightly. Jim's front leg extension is minimum and his rear leg drive is maximum. Notice the heel and toe action as his foot is planted. Some indication of the spring can be gained by observing the level of his head compared to the ground line across the track. Instead of his upper torso leaning forward, the center of gravity rides over his foot and moves forward and downward as his leg begins the pushing action. His foot is left on the ground for a longer time. Then the center of gravity begins to move upward as the pushing action is completed. In this carriage the runner's erect upper body is more relaxed.

was cut down a little each week.

The following time chart shows how well this procedure worked:

1953—Lap times for practice	**1:10**	
First Race	**4:59.2**	
Mid-Season	**4:47.2**	
District	**4:42.7**	
State	**4:42.0**	**Approx.**
Conference	**4:43.0**	
1954—Lap times for practice	**1:08**	
First Meet	**4:43.6**	
Mid-Season	**4:36.6**	
District	**4:32.7**	
State	**4:28.8**	**Championship**
Conference	**4:32.6**	
1955—Lap times for practice	**1:05**	
First Race	**4:25.0**	
Mid-Season	**4:23.4**	
District	**4:25.0**	
State	**4:27**	**Third Place**
Conference	**4:22.5**	
1956—Lap times for practice	**1:04**	
First Race	**4:24.1**	
Mid-Season	**4:20.8**	
District	**4:24.6**	
State	**4:20.7**	**State Record**
Conference	**4:16.1**	**National Record**

From a study of these figures we see that a boy matures enough each year to begin running at about the same speed he used in finishing the season the preceding year. It is also evident that when a runner achieves a time under 4:25 a number of factors enter the picture which are not present at slower paces. Jim ran the mile nine times under 4:25 and only once under 4:20. It is now quite certain that the plan for slow development prevented him from running as fast as he could have on many occasions, but by the time he was permitted to try for a particular time, he was always sure he could make it.

A brief summary of the final year's work should indicate the training procedure used. Jim played football and basketball for three years. The football coach excused him from football the fourth year and he ran cross-country during the fall. He won the state title and set a new course record for the state meet, running 1.98 miles in 9:15. In February, Jim began to prepare for an early indoor meet by running on a blacktop road, about five miles of steady running on four days.

He started on the track the first week in April and a typical early week schedule was as follows:

Monday: Begin every practice with four laps on the grass inside the track and 10 minutes of stretching exercises. End each practice with 880 yards of easy running. Four quarter miles at 1:04 with sufficient rest between to recover completely.

Tuesday: One quarter at 1:04. One 880 in 2:08. One quarter in 1:04.

Wednesday: Two 880's in 2:08 with ample rest between.

Thursday: Run cross-country with some sprinting for 45 minutes to one hour, using rubber-soled running shoes.

Friday: Four 220's in :32. Two quarters in 1:04.

Saturday: Competition.

This procedure varied because DeKalb had dual and triangular meets on Tuesday and Wednesday. During these meets Jim would often run some other distance as a warm-up, then complete three laps of the mile on pace, and jog the remainder of the race. On Saturday the big meets were generally relay meets and he ran on a relay team only when it did not interfere with his individual race. In fact, the only other race in which he was timed was a 1:58 half-mile on a relay team.

After about three weeks of the early season schedule, the amount of work was increased and continued for the remainder of the season.

Monday: Six quarter-miles in 1:04 with a five-minute rest between. Some days a number of full speed 100's or 220's were substituted for one or more of the laps.

Tuesday: Three 880's in 2:08 with 15 minutes between.

Wednesday: One quarter in 1:04. A three-quarter mile in 3:12.

Thursday: Cross-country.

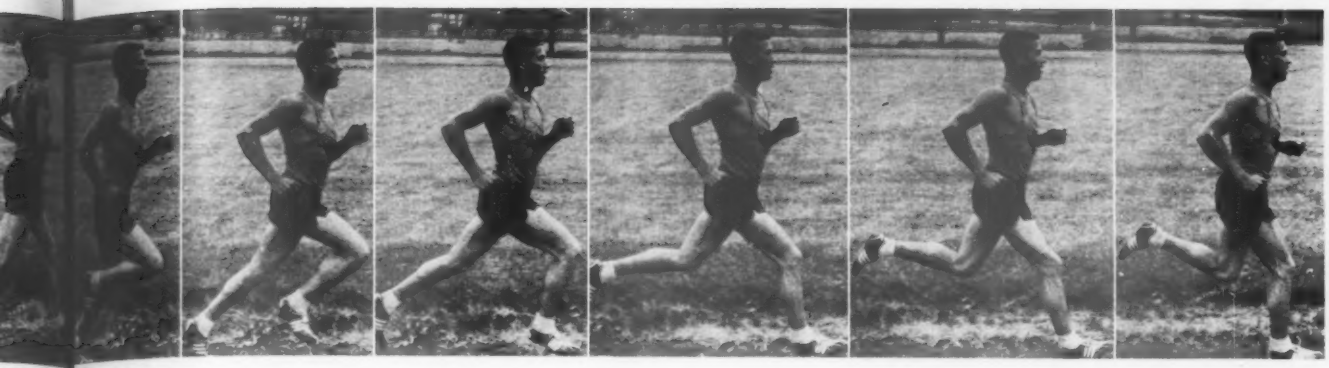
Friday: Rest, unless one or more days had been missed due to bad weather, in which case the Thursday workout was moved to Friday.

Saturday: Competition.

The most difficult of these workouts was the Tuesday workout which called for the 880 distance three times. All of the workouts are comparatively light; however, Bowers was able to improve steadily with that amount of work and never became too tired during a practice session.

In planning this program, we sought the advice of Carl Appell of Northern Illinois State College, and our former track coach, Leland P. "Doc" Lingle of Southern Illinois University. The pace work, the timed interval running, and the one and one-half miles per day were recommended. Jim had so much inherent ability and endurance that any sensible program would have produced improvement.

No particular emphasis was placed on diet. Jim ate his meals at home and the only restrictions were on fats and spices. He supplemented his diet with a daily ration of wheat germ oil. The only illness he suffered during the four years was a slight touch of the flu in the middle of the 1955 season and a sore foot during the 1956 season. He never had sore legs and used rubber-soled running shoes as much as possible to minimize the pos-



sibility of that type of injury. Six laps per day comprised all the time he spent on the hard running surface.

After the thrill of winning the state championship as a sophomore and the shock of losing it the next year to Ron Long of Mooseheart, Jim started the 1956 campaign with serious intentions of bettering both the state and national records. He was capable of running under 4:20 by mid-season but rainy weather and high winds ruined every effort he made to better his time. When he came to the last meet of the season, he had competed under good conditions only once, an early 4:20.8. The state record was set in 4:20.7 with a 19 mile per hour wind on the home stretch.

The night Jim ran the 4:16.1 everything was in his favor. The wind died to zero during the race and the Sterling High School officials had their fine track in excellent condition. Jim had not heard that Ron Gregory of St. Louis had clocked a 4:19.2 in the afternoon. (A little human interest is the fact that Ron Gregory's coach, Warren St. James, and I were teammates on the Southern Illinois track team.)

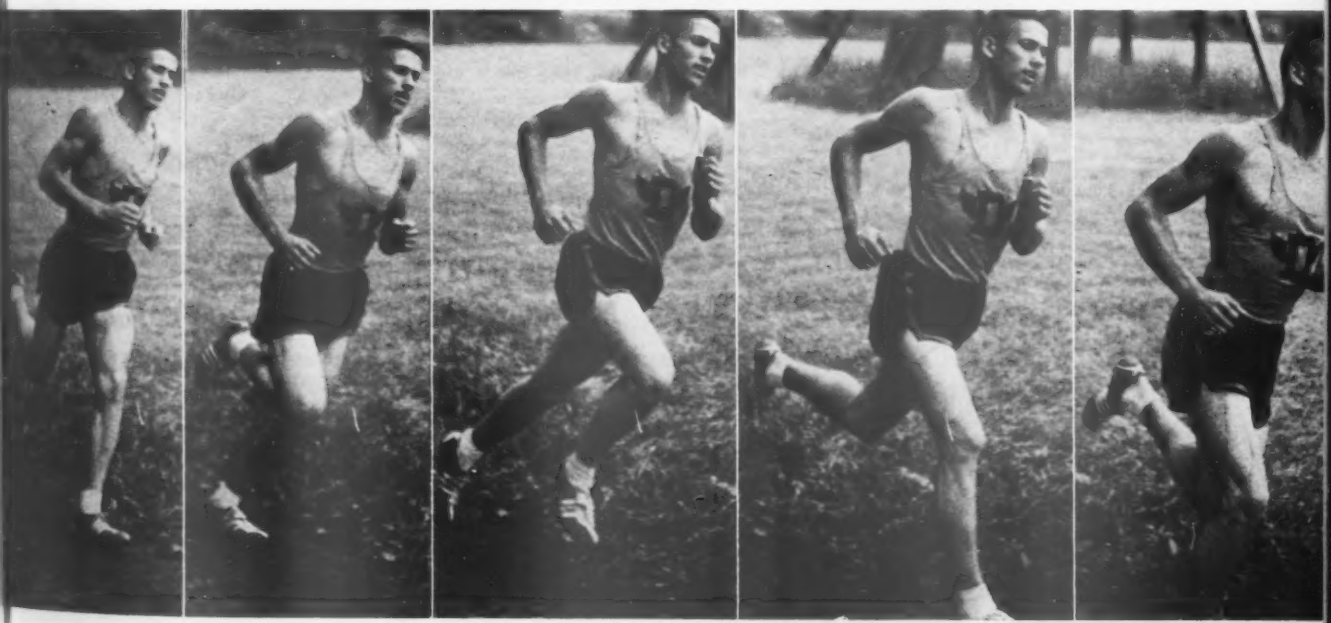
Bowers expected to run a 4:18 and was able to run right on schedule. His lap times were very nearly those planned, a 64, 65, 65, and a 62.1. Jim had learned from experience that he could always pick up a full second on the clock in the first 220, then settle into a steady pace for three laps, and when he was going to lower his best previous time he would so so in the last 110 yards. He had to overcome the desire to push too hard on the back stretch of the fourth lap and on this occasion he timed his rush just right. His stretch drive was strong enough to cut 1.9 seconds off the last 110 yards which makes it appear that he could have run the race even faster. However, he always ran his better races when the first 880 was the slowest.

No attempt was made to change the running form Jim used when he started. His feet toed outward slightly; otherwise, his leg and foot action was ideal. Jim's right arm came across his chest a little more than his left, probably from so much running on the curve. He ran in an erect position and when he was straining for speed at the end of a race his chin would lift even higher. It was hard to determine whether this chin lift actually slowed him down. A study of slow motion pictures of an actual race did show that he had a great deal more spring in his stride than had been evident from visual study.

Some indication of the renewed interest in distance running in Illinois

(Continued on page 57)

This series shows the curve running and a good view of Bowers' arm action.



National Honor Roll

Competitor and School	Meet	Time
100-Yard Dash		
Broussard (Hebert, Beaumont, Texas)	District	9.5
W. White (Jefferson, Los Angeles, Calif.)	State	9.5
Phillips (Montclair, N. J.)	Newark Inv.	9.5
J. White (Corcoran, Calif.)	Central Sec. Div.	9.5
Poynter (Pasadena, Calif.)	So. Sec. Finals	9.6
Schaaf (Orosi, Calif.)	West Coast Relays	9.7
Brown (Lincoln, San Jose, Calif.)	Burlingame Inv.	9.7
McClellan (Stamford, Texas)	Regional	9.7
Hollis (San Angelo, Texas)	Fort Worth Relays	9.7
West (East, Memphis, Tenn.)	Regional	9.7
Givens (Barringer, Jersey City, N. J.)	City	9.7
220-Yard Dash		
Poynter (Pasadena, Calif.)	So. Sec. Prelim.	20.8
Broussard (Hebert, Beaumont, Texas)	State (Negro)	20.8
Jehle (Chaffey, Ontario, Calif.)	Citrus Belt League	21.0
D. Brown (Lincoln, San Jose, Calif.)	Peninsula Ath. League	21.0
Ellis (New Brunswick, N. J.)	Middlesex County	21.0
Skvarna (Chaffey, Ontario, Calif.)	Citrus Belt League Prelim.	21.0
McClellan (Stamford, Texas)	Brady Relays	21.1
440-Yard Dash		
J. White (Corcoran, Calif.)	State	46.7
Ross (California, Whittier, Calif.)	Chaffey Inv.	48.2
Jehle (Chaffey, Ontario, Calif.)	Chaffey Inv.	48.4
Dorsey, (Berkeley, Calif.)	North Coast Div.	48.5
Hambright (Tyrone, Pa.)	State	48.7
Smith (Ludlowe, Fairfield, Conn.)	State	48.7
Lattimore (Phillips, Chicago, Ill.)	State	48.8
Gault (Northside, Fort Worth, Texas)	State	49.0
880-Yard Run		
Siebert (Willits, Calif.)	State	1:53.8
Carroll (Fordham, N. Y.)	CHSAA	1:54.7
T. Brown (Merced, Calif.)	North Yosemite League	1:55.1
Lemons (Polytechnic, Riverside, Calif.)	So. Sec. Finals	1:55.3
Rosemond (Ysleta, Texas)	State	1:55.5
Smith (Freeport, Ill.)	State	1:56.1
Pearcy (Sundown, Texas)	State	1:56.6
Miller (Fremont, Los Angeles, Calif.)	Los Angeles City	1:56.9
One Mile Run		
Bowers (DeKalb, Ill.)	No. Central Ill. Conf.	4:16.1
Gregory (Sumner, St. Louis, Mo.)	City	4:19.2
Larrieu (Palo Alto, Calif.)	State	4:20.1
Luisi (Rockland, Mass.)	State	4:21.5
Neal (Fullerton, Calif.)	So. Sec. Finals	4:22.1
Rye (Eagle Rock, Los Angeles, Calif.)	Los Angeles City	4:23.5
Harkness (North, Hollywood, Calif.)	Valley League	4:25.3
Roelen (San Fernando, Calif.)	Valley League	4:25.3
Hill (Davenport, Iowa)	State	4:25.6
120-Yard High Hurdles		
Piggee (Pasadena, Calif.)	So. Sec. Finals	14.0
Beard (Thorndale, Texas)	State	14.1
Goodman (Pierce, Arbuckle, Calif.)	No. Section	14.1
Messer (Lemoore, Calif.)	State	14.2
Pinkston (Pomona, Calif.)	So. Sec. Prelim.	14.2
Owens (Fullerton, Calif.)	Chaffey Inv.	14.2
Jones (Pontiac, Mich.)	Regional	14.3

Competitor and School	Meet	Time
180-Yard Low Hurdles		
White (Jefferson, Los Angeles, Calif.)	State Prelim.	18.9
Owens (Fullerton, Calif.)	Chaffey Inv.	18.9
Messer (Lemoore, Calif.)	Central Sec. Finals	19.0
Holman (California, Whittier, Calif.)	So. Sec. Finals	19.1
M. Kleinhans (Solon, Ohio)	State	19.1
Brandt (Denison, Iowa)	District	19.2
Bradley (Lincoln, Dallas, Texas)	State (Negro)	19.2

Field Events

Competitor and School	Meet	Distance
Pole Vault		
Brewer (North, Phoenix, Ariz.)	Arizona Relays	14-3⅛
Matejka (Sequoia, Redwood City, Calif.)	El Cerrito Relays	14-0½
Helms El Dorado, Placerville, Calif.)	State	13-6
Logan (El Cajon, Calif.)	State	13-6
Rocha (Jordan, Long Beach, Calif.)	So. Sec. Finals	13-5½
Harris (Baton Rouge, La.)	State	13-4
Betz (Hollywood, Calif.)	City	13-3
Kelley (Los Angeles, Calif.)	City	13-3
High Jump		
Mangham (New Castle, Pa.)	District	6-9¾
Sims (Jordan, Los Angeles, Calif.)	Los Angeles City	6-7
Nourse (Springfield, Ohio)	Mansfield Relays	6-6¼
Lewis (Yates, Houston, Texas)	City (Negro)	6-5¾
Alexander (Salem, Ohio)	Mansfield Relays	6-5¼
Elson (Lodi, Calif.)	San Joaquin Sec. Prelim.	6-4¾
Hoffman (Northeast, Kansas City, Mo.)	Shawnee Relays	6-4⅝
Little (Refugio, Texas)	Victoria Relays	6-4½
French (Pretty Prairie, Kansas)	State	6-4½
Broad Jump		
Troutman (Roanoke, La.)	State	24-11
Bean (Jefferson, Los Angeles, Calif.)	State	24-9
Walton (Fremont, Los Angeles, Calif.)	Los Angeles City	24-5½
Perkins (El Cerrito, Calif.)	El Cerrito Relays	24-3½
Lindsey (Manual Arts, Los Angeles, Calif.)	State	24-3¼
Hayes (Lincoln, San Diego, Calif.)	State	24-0⅛
Smith (Compton, Calif.)	State	23-11½
Fawcett (Reagan, Houston, Texas)	State	23-11
Shot Put		
Robertson (Pacific, San Bernardino, Calif.)	State	63-9½
Davis (Canoga Park, Calif.)	Los Angeles City	62-7½
Locke (Peck, Barrington, R. I.)	Brown Interscholastic	61-6
Garriott (Hobart, Ind.)	Regional	59-9½
Griffin (North Hollywood, Calif.)	State	59-6½
Profit (Campbell, Calif.)	No. Coast Sec. Finals	59-4⅛
Wilkes (University High, St. Louis, Mo.)	State	59-3⅛
Marchiony (LaSalle, Oakdale, N. Y.)	Englewood Inv.	59-2
Discus Throw		
Scarbrough (McDonald, Ohio)	State	184-2⅛
Crow (Corcoran, Calif.)	So. Sequoia League	179-6
Cochran (Brookfield, Mo.)	State	172-8½
Boykin (Woodrow Wilson, Xenia, Ohio)	State	170-1⅛
Zaino (Westbury, N. Y.)	Intersectional	170-0¾
Fields (Parkersburg, W. Va.)	Regional	169-8¾
Brown (Stonington, Conn.)	State	169-7¼

Compiled by E. A. THOMAS

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100 Yd. Dash	9.3	James J. Golliday	Evanston, Ill.	5/14/55
220 Yd. Dash	20.2	Melvin Patton	Los Angeles, Calif.	5/7/49
120 Yd. H. H.	13.5	Richard Attlesey	Fresno, Calif.	5/15/50
220 Yd. L. H.	22.3	Harrison Dillard	Salt Lake City	6/21/47
440 Yd. Dash	46.0	Herbert McKenley	Berkeley, Calif.	6/5/48

Olympic marks made at Melbourne with use of Arnett Blocks

Event	Time	Athlete	Event	Time	Athlete
400 Meter Hurdles	50.1*	Glen Davis	400 Meter Relay	39.5*	Baker, King, Murchison and Morrow
800 Meter Run	1.47.7*	Tom Courtney			
400 Meter Run	46.7	Charlie Jenkins	110 Meter Hurdles	13.5*	Lee Calhoun
100 Meter Dash	10.5	Bobby Morrow	1600 Meter Relay	3.04.8	Jenkins, Jones, Mashburn and Courtney
200 Meter Dash	20.6*	Bobby Morrow			

*Olympic Record

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Competitor and School	Meet	Time
Javelin Throw		
Conner (Hayden, Topeka, Kansas)	Baker U. Relays	209-3¾
Barber (McPherson, Kansas)	K. U. Relays	207-4¼
Ayers (Collingswood, N. J.)	Episcopal Inv.	201-3½
Book (Shawnee Mission, Merriam, Kansas)	State	199-6
Alexander (Bothell, Wash.)	State	198-11
Morrison (Albuquerque, N. Mex.)	State	193-4½
Mayer (Asbury Park, N. J.)	Monmouth-Ocean Co.	192-11
Kroon (Swarthmore, Pa.)	Norristown Inv.	192-8½
880-Yard Relay		
Jefferson (Los Angeles, Calif.)	State	1:25.9
Central (Little Rock, Ark.)	Arkansas Relays	1:27.9
Manual Arts (Los Angeles, Calif.)	Los Angeles City	1:28.3
Technical (Oakland, Calif.)	City	1:28.3
Bakersfield, Calif.	Kern Relays	1:28.4
Chaffey (Ontario, Calif.)	Chaffey Inv.	1:28.4
St. Francis (Brooklyn, N. Y.)	Irish Christian Bros.	1:28.5
Pasadena, Calif.	Foothill League	1:28.8

Competitor and School	Meet	Time
One Mile Relay		
North Side (Fort Worth, Texas)	State	3:19.8
Lamar (Houston, Texas)	Houston Relays	3:20.2
Baytown, Texas	Regional	3:20.8
Bloom (Chicago, Ill.)	State	3.22.1
Sacramento, Calif.	California Relays	3:22.8
St. Francis (Brooklyn, N. Y.)	Penn Relays	3:23.7
Deer Park, Texas	State	3:24.0
Ennis, Texas	State	3:24.0
440-Yard Relay		
Arlington Heights (Fort Worth, Texas)	State	42.2
El Campo, Texas	State	42.8
Barbers Hill (Mont Belvieu, Texas)	State	42.9
Central (Little Rock, Ark.)	Arkansas Relays	43.0
Berkeley, Calif.	Martinez Relays	43.2
Lamar (Houston, Texas)	Houston Inv.	43.2
Anderson (Austin, Texas)	State (Negro)	43.2
Reagan (Houston, Texas)	District	43.2

Eleventh Annual High School Track Meet

EACH year at this time we present the National High School Honor Roll as selected by Mr. E. A. Thomas for the National Federation of State High School Athletic Associations. Accompanying the Honor Roll we present the National High School Track Meet. The meet is conducted by comparing the winning times and distances as recorded in the various state meets of last spring. Due to varying track and weather conditions, the results must be studied over a period of several years.

Scoring of the meet follows the NCAA method of awarding 10, 8, 6, 4, 2, and 1 points for the first six places. The meet appears on the following two pages. The best performance is indicated by a solid red block. When two or more states tied for first place, a diagonal block was used. The numbers in parentheses, following the total number of points, show the position of the state in the meet. Stars indicate new records.

California Returns to First Place

Last year Texas took over the honor of being the greatest track state by nosing out California for first place. Incidentally, only twice in the eleven years of the meet has California been defeated and both times Texas turned the trick. California's margin was 60 points over second place Illinois, and this is the largest margin, surpassing the margin of 52 points in the 1951 meet. California's total of 106 points tied the previous high mark set by the western state in the 1955 meet. In compiling the record total, California scored in all but one event in which it competed. The 1955 meet saw California scoring in all events in which it competed. Over the years, these have amounted to 118 events in which points have been scored out of a possible 134.

The Top Ten

There was more of a change among the first ten states this year than in previous years; only six repeated from a year ago. Arizona, Indiana, Washington, and Utah dropped out of the select list. Their places were taken by Michigan, Missouri, Louisiana, and Iowa. For Iowa this year marked its first appearance in the group after several years' absence. Michigan continues to improve and its total of 23 points is more than it scored in all of the first seven meets. Michigan's sixth place finish is also its highest to date. California and Texas have been represented in the top group each year. Indiana failed to score and now has been listed nine times, as has Illinois. Ohio has only missed once and Pennsylvania has appeared among the leaders eight times. New York has failed to make the "Top Ten" the last two years but still has appeared six times. Iowa increased its total to five and is now tied with New Jersey. Kansas and Washington have each appeared four times and Oregon, Michigan, and Missouri three times. Massachusetts, Arizona, and Louisiana have been represented twice and Colorado, Connecticut, Florida, Tennessee, Utah, and Virginia once each.

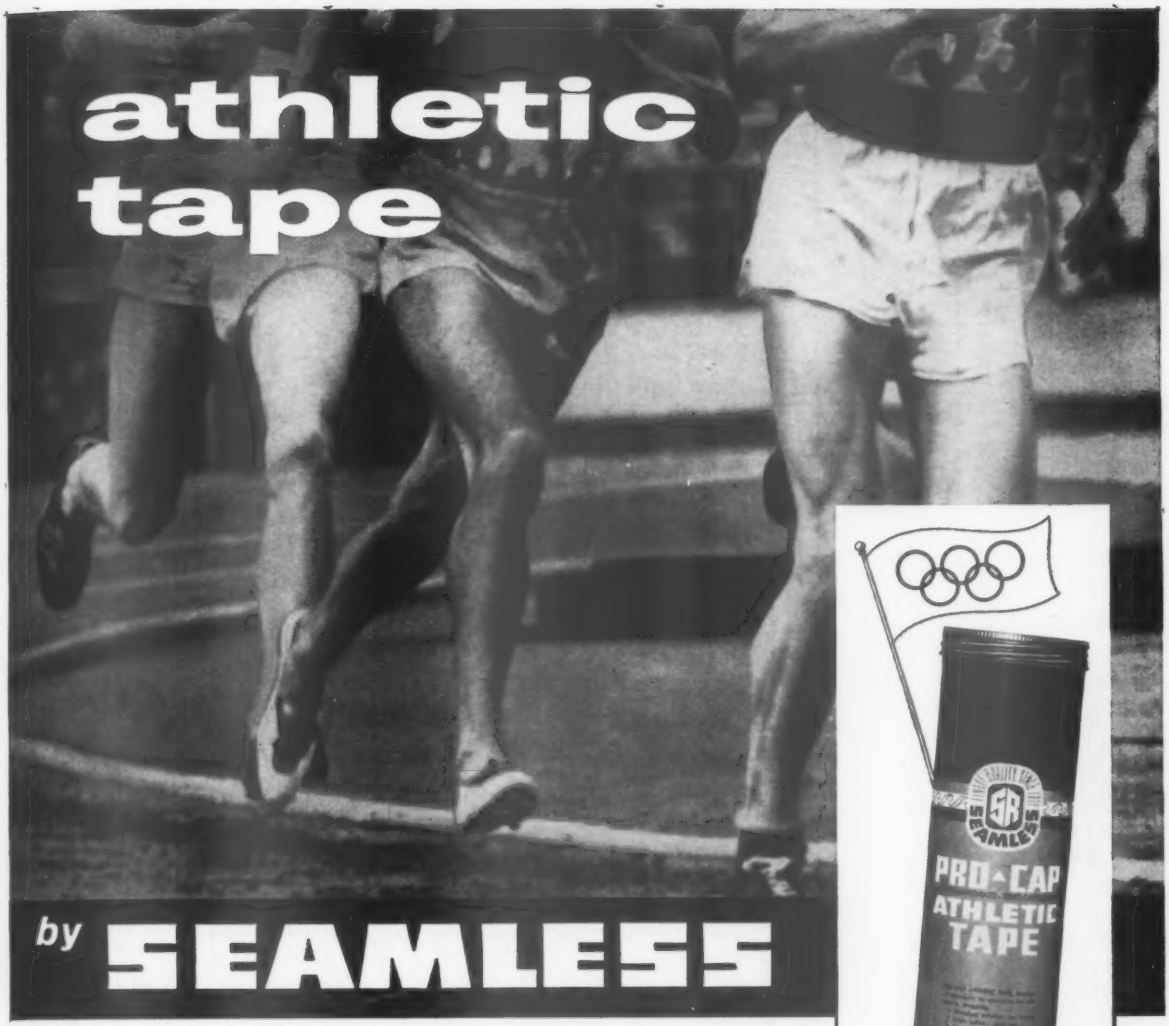
Standings

In the all-time list there were no changes through the first twelve places. Missouri jumped from fifteenth to twelfth and Arizona climbed up from eighteenth to sixteenth. Although Michigan failed to gain appreciably; nevertheless, its 23 points brought it to a position where it is only 6 points out of fifteenth place. The standing of the states follows. All fractions have been raised to the next highest full number.

1. Calif.	909	23. Nebr.	38
2. Texas	504	24. Utah	37
3. Ohio	324	25. Minn.	31
4. Ill.	313	26. Fla.	29
5. Ind.	255	27. N. Dak.	24
6. N. Y.	231	28. N. Mex.	21
7. N. J.	183	29. Mont.	19
8. Pa.	173	30. Idaho	15
9. Iowa	158	Tenn.	15
10. Okla.	138	32. Ark.	8
11. Kans.	125	D. C.	8
12. Mo.	111	Ky.	8
Wash.	111	N. Car.	8
14. Ore.	95	36. R. I.	6
15. Wisc.	86	37. Md.	5
16. Ariz.	81	S. Dak.	5
Mass.	81	W. Va.	5
18. Mich.	80	40. Ga.	4
19. Colo.	75	41. Nev.	4
20. La.	72	42. Ala.	2
21. Conn.	56	43. Miss.	1
22. Va.	44	44. Wyo.	1/3

Indiana's failure to score hurt it in

(Write-up continued on page 57)



goes to the olympic games

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★ HELSINKI 1952

★ MELBOURNE 1956

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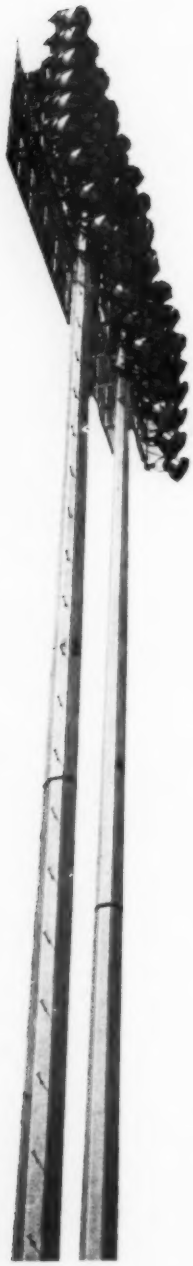
National High School Track Meet

STATE	120 HIGH HURDLES	100 DASH	MILE	880 RELAY	440	180 LOWS	880	220 DASH	MILE RELAY	POLE	SHOT	HIGH	DISCUS	BROAD	JAVELIN (b)	TOTAL
ALA.	14.9	10.1	4:39.3		52.5	20.3	2:02.4	22.9	3:31.3	11-10	47-11	5-9¼	142-9⅝	22-0		
ARIZ.	14.5	10.0	4:33.9	½ 1:30.7	50.6	19.9	2:00.4	22.2		★	★ 55-10¼	6-1	166-8	22-11¼		10½ (13)
ARK.	15.6	10.1	★ 4:36.0	★ 8 1:29.5	51.2	20.5	★ 2:00.1	22.4	★ 3:29.7	11-10	52-1¼	5-11	136-9	21-10¼		8 (15)
CALIF.	8 14.2	★		★	★	8 19.0		8 21.0		8 13-6	★	6-3¼	★ 6 171-5¼	8 24-9		106 (1)
COLO.	14.9	10.1	4:39.2	1:32.1	51.0	20.0	★ ½ 1:58.2	22.1	3:29.4	12-0	49-0¼	6-1½	★ 157-3½	22-4¾		½ (25)
CONN.	★ 15.2	9.9	4:30.0	★ 1:31.9	★ 7 48.7	★ 2⅕ 19.3	1:58.9	22.2		11-0	★ 54-8½	5-8	★ 2 169-7¼	21-4	166-1¼	11⅕ (12)
DEL.	No state meet															
D.C.	15.6	10.0	4:35.4	1:30.8	51.2	20.6	2:01.8	22.4	3:26.5	11-0	53-9½	5-8	132-11½	21-5		
FLA.	15.0	10.2	4:37.6	1:31.6	★ 50.8	20.4	★ 1:58.8	22.5	★ 3:29.1	12-1	★ 54-0¼	★ 6-2¼	155-8½	★ 22-7½		
GA.	14.7	10.0	4:26.6	1:33.4	51.1	19.5	2:02.8	22.7	3:37.4	12-4	55-7	6-3⅛	152-1	22-4½	166-0¼	
IDAHO	15.3	10.0	4:31.5	1:34.2	★ 50.0	20.3	2:03.7	22.0	★ 3:32.1	★ 12-2	51-1½	5-10½	148-8	20-2½		
ILL.	14.7	9.9	★ 8 4:20.7	1:30.8	4 48.8		★ 6 1:56.1		★ 8 3:22.1	12-1	55-1¾	6-3¼	157-6⅞	21-8⅝		46 (2)
IND.	15.0	10.0	4:29.5	(a)	51.2	19.9	1:58.5	22.0	3:32.0	12-4	56-11½	5-10		21-7¼		
IOWA	14.7	10.0	2 4:25.6	5 1:30.2	49.8	19.7	1:59.4	21.8	2 3:24.7	12-4½	★ 4 58-0½	6-3⅛	★ 163-7⅛	21-4⅜		13 (9)
KANS.	14.8	10.1	★ 1 4:26.0	1:31.8	49.5	19.7	2 1:57.8	21.9	1 3:25.5	12-0¾	52-2		★ 166-5¼	22-11¼	★ 205-6	13 (9)
KY.	★ 14.9	10.1	★ 4:33.8	1:32.7	51.5	21.4	2:01.2	23.6	3:35.8	11-4	★ 52-6½	★ 6-2	★ 157-5	21-1¼		
LA.	14.6	9.9	4:34.3	1:31.4	50.0	19.7	2:00.1	21.8	3:30.6	★ 6 13-4	★ 1 57-4	6-0¾	144-8¼	★	178-3	17 (8)
MAINE	15.4	10.3	4:38.7	1:37.9	51.7	21.1	2:02.7	22.4		10-9	45-5	5-9½	139-5½	20-4	154-2¾	
MD.		10.3	★ 4:35.2	★ 1:32.9	52.0		2:02.5	22.5	3:34.0	11-0	49-2½	★ 6-0	★ 144-5	21-0		
MASS.	15.1	★ 9.9	★ 4 4:21.5	1:33.6	50.2	19.9	1:59.8	21.9		11-2	51-4½	6-0¾	★ 145-5¼	21-10	★ 177-6½	4 (19)
MICH.	★ 3¼ 14.4	8 9.7	4:33.6	1:31.0	50.0	19.4	★ 1:58.9	6 21.2		12-6	53-11¾	2 6-3⅞		★ 4 23-8⅞		23¼ (6)
MINN.	15.3	10.1	4:32.2	1:31.5	51.6	20.0	1:59.2	22.6		★ 2 12-8½	56-1¼	6-1½	156-3¾	22-9⅞		2 (23)
OHIO	15.2	10.1	4:40.5	1:33.2	50.7	20.4	2:00.5	22.2	3:31.1	12-0	51-11½	6-0½	141-9	22-1		
MO.	14.8	10.1	★ 6 4:21.0	1:31.8	★ 1 49.1	19.8	2:00.7	22.1	★ 4 3:24.4	★ 12-4¾	★ 5 59-3⅛	6-3	★ 172-8½	★ 2 23-6¼		29 (5)
MONT.	15.3	9.9	4:43.5	1:33.0	50.3	20.4	★ 1:58.7	21.7		12-0	★ 54-4¼	6-2	157-1¼	21-0⅜	170-4	

MICH.	14.4	9.7	4:33.6	1:31.0	50.0	19.4	1:58.9	21.2		★ 2 12-8½	56-1¼	6-1½	186-3¾	22-9⅞		2 (23)
MINN.	15.3	10.1	4:32.2	1:31.5	51.6	20.0	1:59.2	22.6		12-0	51-11¼	6-0¼	141-9	22-1		
MISS.	15.2	10.1	4:40.5	1:33.2	50.7	20.4	2:00.5	22.2	3:31.1							
MO.	14.8	10.1	★ 6 4:21.0	1:31.8	★ 1 49.1	19.8	2:00.7	22.1	★ 4 3:24.4	12-4¾	★ 8 59-3⅛	6-3	★ 2 172-8½	23-6¼		29 (5)
MONT.	15.3	9.9	4:43.5	1:33.0	50.3	20.4	★ 1:58.7	21.7		12-0	★ 54-4¼	6-2	157-1¼	21-0⅜	170-4	
NEBR.	14.8	2-3/5 9.8	4:28.9	1:32.0	51.2	20.1	★ ½ 1:58.2	22.0	★ 3:26.8	12-7½	55-2½	6-2⅜	152-11½	21-11		(22) 3 1/10
NEV.	15.5	★ 2-3/5 9.8	5:01.4	1:34.2	51.9	20.1	2:08.4	★ 1 21.6		11-3	50-1¾	6-0⅞	144-5½	22-1		(21) 3 3/5
N.H.	16.7	10.5	4:35.5	1:35.8	52.2	22.1	2:05.6	23.7		10-8	46-9¼	5-7	135-3	21-0	158-6½	
N.J.	14.8	9.9	4:33.6		51.3	20.3	2:03.8	22.0		12-5¾	54-3⅜	5-10¾	★ 160-2	21-4	179-0¼	
N. MEX.	14.8	10.2	4:39.3	1:32.4	50.7	20.0	★ 1:58.3	22.0	★ 3:26.1	★ 12-6¾	48-11⅞	[redacted]	★ 159-6½	22-3	176-8½	9 (14)
N.Y.		2-3/5 9.8	4:27.1	1:32.7	49.4	★ 19.9	★ 4 1:57.2	1 21.6		★ 12-6⅛	55-0⅜	6-3⅛	★ 4 170-0¾	21-7⅞	190-0	11 3/5 (11)
N.C.	14.9	10.1	4:38.5		50.1	19.9	2:02.1	22.7	3:32.0	11-0	49-7¾	5-10⅜	150-7	21-8		
N.D.	★ 3¼ 14.4	10.0	4:41.0	1:35.8	52.2	★ 2⅛ 19.3	★ 2:01.7	21.7		11-0	48-7½	★ 6-2	131-2½	20-10	169-2½	(18) 5 7/12
OHIO	3¼ 14.4	2-3/5 9.8	4:28.6	5 1:30.2	49.9	6 19.1	1:59.2	1 21.6	3:26.8	4 13-0⅜	56-3½	4 6-4	★ 1 [redacted]	1 23-1½		(4) 36 17/20
OKLA.	15.0	10.1	4:32.5	½ 1:30.7	50.2	20.1	2:01.2	21.9	3:27.0	12-4	51-8	6-1½	161-4	22-4		½ (25)
ORE.	14.6	10.1	4:31.5	1:32.8	50.9	19.9	2:01.5	★ 23.8		12-3¼	57-1½	6-1¾	158-7	22-7¼	184-11	
PA.	3¼ 14.4	10.2	4:27.4	★ 2 1:30.5	★ 7 48.7	19.6	1:59.2	22.4	★ 6 3.24.2	12-3⅞	55-5½	½ 6-3¾	★ 1 166-9¾	22-3⅝	189-9	19¾ (7)
R.I.	15.4	10.3	4:44.4	1:37.5	52.4	20.1	2:02.9	22.4		11-6	6 58-10½	5-6	123-4½	21-5¾	166-1½	6 (16)
S.C.	15.2	10.2	4:37.5	1:35.5	53.2	20.8	★ 2:02.3	★ 22.2	3:36.5	11-2	47-10¾	5-11	136-6	20-4¼	★ 171-4	
S.D.	14.7	10.3	4:38.2	1:33.4	52.2	19.8	2:01.9	23.2	3:31.7	11-10¼	49-0½	5-9	143-6½	21-2		
TENN.	15.5	10.1	4:34.2	1:34.2	51.6	20.7	2:01.9	22.5	★ 3:31.3	11-0	52-10½	6-0	141-3½	21-1½		
TEXAS	[redacted]	2-3/5 9.8	4:27.8		2 49.0	2⅛ 19.3	8 1:55.5	21.7	[redacted]	1 12-8	54-7⅝	6-3	163-11	6 23-11		(3) 41 14/15
UTAH	15.1	10.0	4:38.7	1:31.9	50.2	19.9	★ 1:59.4	22.3	★ 3:28.5	12-4	52-8¼	★ ½ 6-3¾	148-4	22-4¼	★ 188-3¾	½ (25)
VT.	16.6	10.4	4:39.8		53.8	21.7	2:05.8	23.4		10-3	49-0½	5-6¾	126-7	20-5⅜	158-9	
VA.	15.1	9.9	4:34.2	★ 1:34.5	★ 49.9	20.8	1:59.2	★ 4 21.5	3:30.1	11-11½	53-7¼	5-10½	★ 158-2½	22-0¾		4 (19)
WASH.	14.9	10.1	4:30.7	1:31.6	50.3	19.4	1:58.3	22.0		12-0	55-1½	6 6-4¼	158-8¾	22-3⅜	★ 198-11	6 (16)
W. VA.	14.7	10.2	★ 4:34.7	1:32.7	50.5	★ 19.5	2:00.6	22.7	3:34.1	10-10	★ 52-6	5-8	159-11½	21-3¼		
WISC.	14.5	10.2	4:35.7	1:32.3	50.4	19.6	2:01.3	22.2		12-1¾	★ 2 57-6	★ 6-2¾	158-5¾	21-9		2 (23)
WYO.	15.9	10.3	4:47.5	1:34.8	★ 49.5	20.2	2:03.7	22.2		11-6	49-9½	5-11	136-0	20-0⅞		

(a) Winning team disqualified. No time recorded for second place team.

(b) No points awarded for javelin because less than half the states have this event.



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WHEN the new floodlighting system at Texas Memorial Stadium, home of the University of Texas Longhorns in Austin, was first turned on last fall the Lone Star State acquired another superlative – the best lighted football field in the country. In fact, when the new floodlighting system is compared with other athletic field floodlighting throughout the nation, only two ball parks – New York's Yankee Stadium and Briggs Field in Detroit – have more light.

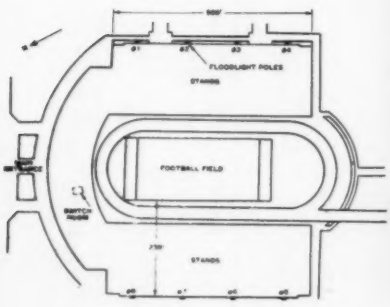
Floodlighted twenty years after it was originally constructed, Memorial Stadium sprawls like a giant horseshoe over a 12-acre portion of the University of Texas campus, and has a playing field 360 feet long and 160 feet wide surrounded on three sides by stands capable of seating 65,500.

An average reading of footcandles at Memorial Stadium registers 112 – far surpassing the minimum illumination levels used customarily in stadia of its size. Along with this high amount of light is also a remarkable uniformity of illumination over the playing field (signified by a ratio of maximum to minimum footcandles reading of 1.53 to 1) that enables players, while spectators comfortably look on from any point in the stands, to see and handle a football with spectacular ease.

Decision to floodlight the big field last year was based on a number of factors: increased popularity of night games among Texas football fans; the need to schedule more and more night games with conference rivals; the desire to keep abreast of the trend among southern schools to floodlight football stadia for year-round use; and finally, to keep the Longhorns a dominant football power in the southwest by providing the team with the best playing facilities possible.

Designed and laid out by Carl J. Eckhardt, Director of the Physical Plant, and installed by Brown & Root, Inc., Houston contractors, the $170,000 floodlighting job was assigned in May last year and completed in early

(Continued on page 46)



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Prompting the decision to floodlight the big field was the growing popularity of night games among Texas football fans ... the need to schedule more and more night games with Texas U.'s conference rivals ... and the need to provide the team with the best night practice and playing facilities possible to help keep the Longhorns a dominant football power in the southwest. Coaches particularly like the Crouse-Hinds system because it stretches the practice day.

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Safety in High School Baseball

By Russel H. Paugh
Baseball Coach, West High School, Madison, Wisconsin

MOST accidents in high school baseball are due to negligence and carelessness. In their enthusiasm for play, young players forget or shun the safety practices which tend to make baseball a more enjoyable and wholesome sport. The high school baseball coach must instill in his players a proper regard for accident possibilities and, without increasing fear in any phase of the game, bring about an awareness of the dangers in baseball. We intend to present practices and ideas which will make high school baseball a safer game.

Most injuries which occur during the early part of the season are due to insufficient training. Players either throw too hard or move too fast during the first few days of practice. They should run easily the first week, and should be required to do setting-up exercises which condition the various parts of the body. The coach should instruct his players in bending and stretching exercises. Most players have been inactive for several months and should be brought to proper playing form and condition gradually. Stooping and squatting exercises are essential for leg conditioning, and shoulder turning and stretching exercises are very important for harder throwing in the second and succeeding weeks of practice. Baseball players throw considerably with their legs, and to prevent pulled muscles and *charley horses,* considerable time during the first week should be devoted to jogging, running, and walking alternately. Practice should be finished with a half-mile of half-speed running. A well-conditioned team seldom experiences body injuries.

High school players want to throw hard during early practice sessions. They should be warned that the ball is heavier than they anticipate and it should be thrown easily during the first week. All throws should be for a short distance, and should be overhand. Throwing should be in the same direction so that players will not be hit by cross throws. Players should be reminded to keep their throws consistent in speed because catchers very often develop *stoved* fingers when the speed of throws is irregular. To prevent elbow and shoulder injuries, players should be told to practice good follow-throughs. The coach should demonstrate good throwing technique and then insist that his players throw properly. Pitchers may be allowed to put some spin on early practice throws, but they should not be allowed to curve the ball until the latter part of the second week of practice.

During batting practice and also in games, batters and spectators should not be allowed to stand or sit behind the hitter. Slipping bats can cause permanent injury, and players should be warned about throwing, dropping, and improper holding of bats. The trademarks on bats should be topside, and only those of good quality should be used. Players should be instructed how to select bats and how to use them. Throwing of bats is intolerable, and any players guilty of such carelessness should be disciplined.

While we are speaking of batting, now is a good time to mention safety caps. The use of safety caps for the prevention of head injuries should be urged. Such caps are inexpensive, and three sizes, small, medium, and large, will suffice for the whole team. They should be required in high school and college baseball.

To prevent bad ankles and broken legs, players should have several sessions of sliding practice before the first game. Boys should be told that once they have made up their minds to slide they should *always* slide. Too many legs have been broken when runners changed their minds at the last moment about sliding or going into a base standing up. We believe the bent leg slide is the best to use because both knees are bent backward and there is less chance of a foot being caught in the base equipment. Also, the spikes of the shoes cannot get caught. The slide should be on the buttocks and side of the leg, with the arms out and down to help reduce the jar of the slide.

Players should be told to slide on all base steals, and especially on squeeze plays from third base to home plate. To prevent hip injuries and *strawberries,* sliding pads should be required. Many players do not like to use them, but they should be worn by all participants. Prevention of sliding injuries saves valuable ball players. Most high schools have only twelve to fifteen good ball players, and sacrificing one or two of them in spring training or games is costly and unnecessary.

Each year scores of players have pockmarked thighs as a result of *strawberry* injuries. Most of the permanent marks of such injuries as well as spike wounds and bruises could have been avoided by proper first aid and medical attention. All baseball injuries should be reported immediately to the coach.

(Continued on page 50)

RUSSEL PAUGH played under Everett Dean at Indiana and then played minor league ball in several different classifications. He coached at Springfield, Ohio, High School, and then served in the navy during the war. Paugh returned to Springfield and then went to Madison in 1947. His team won the state championship in 1951.

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Track Coach, Colgate University

THE greatest shot put series in history, 62 feet, ½ inch, 62 feet, 2½ inches, 62 feet, 8 inches, 62 feet, 5¾ inches, 63 feet, 2 inches, and 62 feet, 1 inch, was produced by Parry O'Brien, the greatest shot putter of all time, in a pre-Olympic meet held on November 2, 1956.

Parry, who was the originator of the O'Brien or modern shot putting technique, was the first man to break the 60-foot barrier, which was the sequel to the four-minute mile. He was also the first shot putter to surpass 61 feet, then 62 feet, and then 63 feet, 2 inches.

O'Brien is an athlete who has an analytical mind, iron determination, absolute confidence in his own ability, and an amiable personality. He is a true All-American in every sense of the word.

The accompanying illustrations were taken from the 1956 Kansas University Relays film. Parry was the unofficial winner of the shot put in the 1956 Kansas Relays with 60 feet, 2½ inches, to top Bill Nieder's 59 feet, 7½ inches. Nieder, the official winner, who employs the same basic form will be discussed in the second of this series of three articles.

The frames selected for these illustrations were those which most nearly corresponded to the sequence pictures of Nieder.

Illustration 1 shows O'Brien in the initial stance at the rear of the circle. His back is in the direction of the put. He is relaxed and his body weight is over his right leg and foot. The toes of his right foot point at an angle of about 180° from the direction of flight. His left leg is relaxed and flexed slightly. The toes of his left foot are touching the ground lightly about 6 inches behind and 6 inches to the left of his right foot.

The shot, held in the fingers of Parry's right hand, is resting on the upper portion of the trapezius, below and slightly behind his ear. His right arm is flexed and abducted 90° in the frontal plane. The frontal plane is perpendicular to the direction of flight. His left arm is partially flexed and abducted approximately 135° in the frontal plane, and his left

JACK WARNER ran the distances at Syracuse, graduating in 1951. The next two years were spent coaching track in the marine corps both at Quantico and Camp Le Jeune. In 1955 he coached at North Syracuse, New York, High School, and then served as assistant coach to Bill Easton at Kansas. Warner was appointed to his present position this past summer.

hand is about 10 inches above his head.

O'Brien holds his head erect and faces directly to the rear. He focuses his eyes on a point about 10 yards behind the circle.

In Illustration 2 we see that the dip over the right knee is underway. The heel of Parry's right foot has been raised off the ground as his body weight has been centered over the ball of his right foot. Now his left leg is partially flexed and has been raised to the rear. The sole of his left foot is in the direction of flight and slightly upward. His left knee points toward the surface of the ring.

O'Brien's trunk has been flexed forward and his right leg has started to flex for the dip over his knee for the purpose of maintaining body balance.

Although it cannot be seen in this illustration, his left arm has been moved across the front of his body at shoulder level. Parry's right upper arm is still abducted 90°. He has moved the shot forward slightly on his shoulder and is now holding it under his ear.

His eyes still remain focused on a point about 10 yards behind the circle.

Illustration 3 shows O'Brien just

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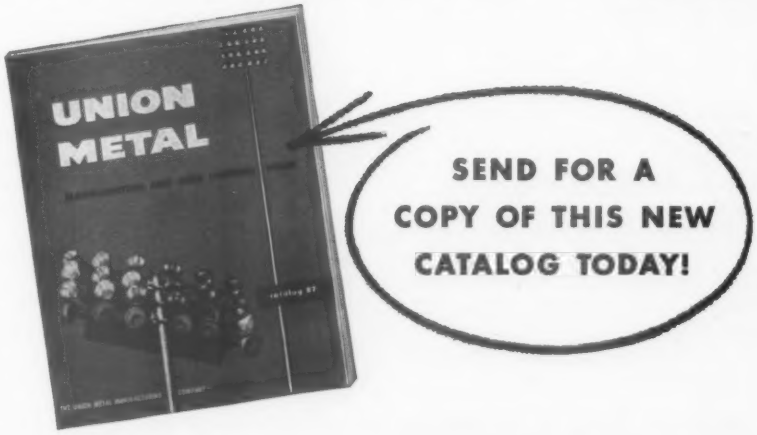

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prior to the completion of the dip. His right heel is being lowered to the ground. In order to place his trunk in a lower position, his right leg is in the process of flexion. His left leg is extended and the toes of his left foot are about to contact the ground.

At this stage O'Brien's back is almost parallel to the ground. The lines of his hips and shoulders are perpendicular to the line of movement.

His right upper arm is still abducted 90° and the shot is still held below his ear. O'Brien's left arm may be seen across and in front of his shoulders.

His head is held upright, and his eyes are still focused on a point about 10 yards behind the ring.

Illustration 4 shows that O'Brien has started the kick of his left leg to the rear. His right leg is flexed to an angle of approximately 90° and he is in a low position with his spine almost parallel to the ground. Now his right foot is flat on the ground as the drive off is underway. Parry's left leg is partially flexed, and his knee and toes are approximately 8 inches above the surface of the ring. His left leg is kicked straight backward along the line of movement.

O'Brien's left arm is still held across his body and his shoulders are kept perpendicular to the line of movement. At this point his right upper arm is about four inches lower than is shown in Illustration 3, and his elbow is approximately 12 inches to the right of his right knee. The shot is still held under his right ear.

His head is held upright with his eyes focused behind the ring.

Illustration 5 shows O'Brien at the

Ken Bantum — 60 Footer

By Irving L. Kintisch

Assistant Track Coach,

Manhattan College

THESE excellent action pictures of Ken Bantum show a form that is basically simple to learn, mechanically correct, and without an unnecessary motion that would complicate the task of getting the body and shot in motion across the circle.

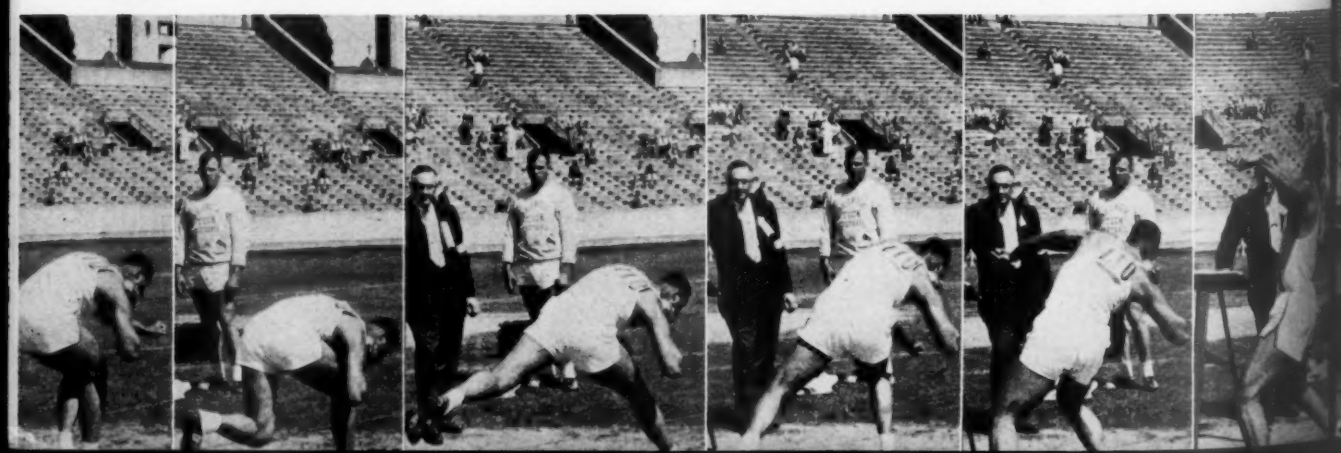
Illustration 1. Facing the rear, with his right foot pointed slightly to the left of the diameter, Bantum is completely relaxed as he bends over his right leg. His foot does not point straight back as does Parry O'Brien's. Bantum found O'Brien's position uncomfortable in that it kept his hip closed toward the rear, preventing him from driving up and into the shot as he desired. When Bantum started out, he experimented with various foot angles until he found the one that suited him best. He concentrates on getting down over his rear leg in balance.

Illustration 2. As he hits the low point, Bantum's back is parallel to the ground. His left leg begins to extend toward the toeboard. Beginners should be cautioned about imitating this movement. Many of them do not have the coordination necessary to move across the circle from this type of starting position nor do they have the leg and back strength to come up and out of this position.

Illustration 3. Driving forward off his right leg, Bantum is helped across the circle by his reaching left leg and falling hips. In the past Bantum had a tendency to touch the top of the toeboard with his left leg. Because of his size, 6 feet, 6 inches, any extra effort across the circle will cause him to touch the toeboard.

Illustration 4. By drawing his right foot along the ground quickly, spikes dragging, Bantum is able to get his foot and leg underneath his body in proper position. This action requires very quick reflexes which Bantum has. His upper body has been rising steadily but is still turned toward the rear of the circle. Bantum's right foot, which is about to land, has turned forward approximately 45 degrees. His left hand is kept back in position for

Actual pictures of Bantum's record-breaking (NCAA) 60′ ½″ put



completion of the shift. His left foot is about to make contact with the toeboard at its center point. Parry's right leg, which is partially flexed, is supporting his body weight and is now ready for the explosive action of the delivery. The toes of his right foot are now pointing at an angle of about 135° from the direction of flight. His right hip is held backward.

At this point his spine is flexed laterally to the right in an attempt to add the power of the muscles of his left side and back for the delivery.

O'Brien's right elbow has been lowered farther and his upper right arm is abducted to an angle of about 30°. His left arm is still in a position across and in front of his shoulders.

Parry's head is held upward and he is still looking to the rear.

In Illustration 6, Parry is shown during the explosive action of the delivery. His right leg, which is pivoting on the ball of his foot, is in the process of driving his right hip upward and forward into the put.

With the movement of the right hip his body is swung around into the putting position. Although it cannot be seen in this illustration, O'Brien's right elbow is held low as his right upper arm is abducted a little farther.

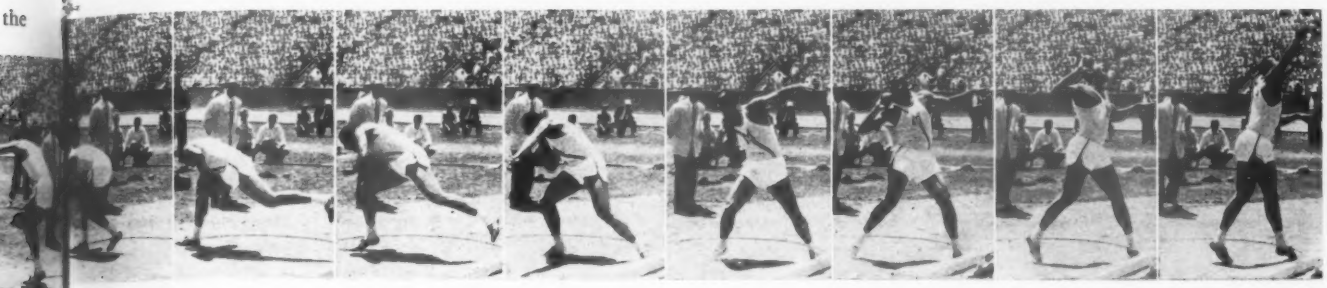
His back is arched slightly with a slight lateral flexion of the spine to the right.

Now his left upper arm is in line with his shoulders but is relaxed and flexed.

Parry's head is held upright and his eyes are focused in the direction of the anticipated flight.

Illustration 7 shows O'Brien a moment after the shot has left his fin-

(Continued on page 56)



a strong pull up and around.

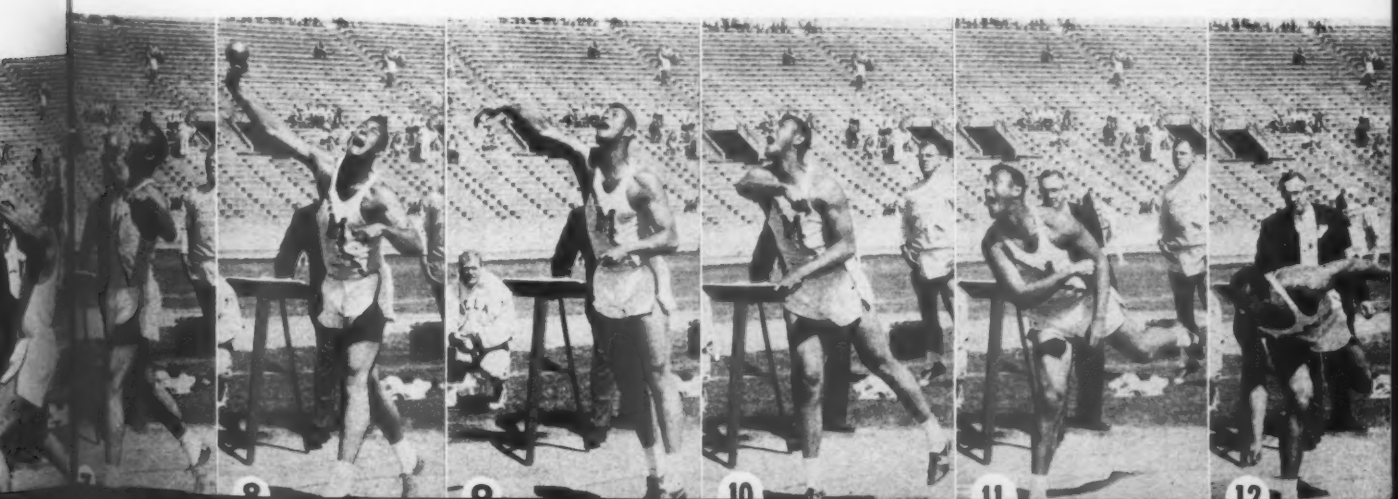
Illustration 5. Invariably, Bantum's right foot hits a split second before his left foot touches the ground. He drives into the shot the instant his right foot hits. His left arm has started its pull. Notice that both of his knees are bent, particularly the left one. Notice also that from Illustration 2 through Illustration 5 the shot is rising continually as it moves across the circle. Bantum is in complete agreement that his body should stay lower and with it the shot as it moves across the putting area. This position enables him to get more back and leg drive into the actual put.

Illustration 6 shows very clearly the potential aid Bantum is going to receive from his bent left leg. In his freshman and sophomore years, he would complete his throws over the bent left leg, throwing line drives to the landing area. More effective use of his left leg is a major reason for adding phenomenal distance to his puts.

Illustration 7. Bantum's left knee has extended as his body rides over his left leg. At this point another of his faults may be noticed. The illustration does not show the angle of the throw insofar as the spot in the area where it will land. Bantum admitted the shot landed far to the right in the landing area and that he had hurried it a little. When his arm thrust begins just a fraction of a second too soon, his throws will nearly always land in that area. Bantum works continually on delaying his arm thrust for that fraction of a second to allow his body to rise over his left leg and turn.

Illustration 8. Bantum's left foot has lifted his body off the ground. His right foot has lost contact with the ground even though the shot is still on his fingertips. Bantum's speed across the circle, and the momentum added to his body and shot by a strong right leg and back lift as well as left leg lift, eliminates the necessity of having his right foot stay on the ground. Those who quote Newton's Third Law, "Action and reaction are equal and opposite," as an argument for maintaining contact with the right foot while the shot is in the hand or on the fingers, make no provision for the factor of momentum.

Illustrations 9, 10 and 11. The shot has gone and the reverse is used by the putter to enable him to stay in the circle. Failure to reverse or to delay the reverse causes the shot to be released too soon. A perfect follow-through enables Bantum to maintain contact longer (Illustration 8).



The Batting Order

By James Smilgoff
Baseball Coach, Taft High School, Chicago, Illinois

A BASEBALL team's batting order should be assembled so that maximum offensive results will be obtained through making the best use of offensive player potential. It should be compatible with and patterned after the team potential in order to bring maximum results. Since the batting order is the basis of a team's offensive strategy it should receive considerable thought and planning time.

There are many factors which must be considered in arranging a batting order.

First, a general team offensive evaluation and inventory should reveal long-range possibilities for the season. This evaluation should indicate general strengths and weaknesses. It should indicate what can be expected during the coming season in the way of offensive power. The evaluation should indicate the caliber of hitting which may be expected. How much can bunting be depended upon? Is base-running speed available for use? What offensive assets does the team possess? How can these assets be put to the best use? In what phase of offense will the team be strongest? In what phase will it be the weakest? How much improvement can be anticipated during the season in order to strengthen the batting order?

The answers to the following questions are also indicative of offensive strength. How does this team compare to last year's first place team in the league from an offensive standpoint? How does this team compare to last year's team on a comparable date?

If there is to be an evaluation, it must be measured against something. Therefore, some standard such as a team that has been successful in the past or some other team can be used by the coach as a standard against which to measure the offensive possibilities of his own team.

Next, an individual inventory should be taken in order to evaluate the offensive strengths and weaknesses of the players in detail. This evaluation may be measured against the standards required of a good offensive baseball player at the level or age range of competition in which the team is participating. For example, when evaluating the offensive potential of a high school team, the individual offensive abilities of the players should be evaluated against the standards that a good high school baseball player should possess in the opinion and experience of successful high school coaches. The same is true at the college level or at the professional baseball level. Here the standards are more advanced; therefore, the offensive requirements are greater and more advanced. In any case it is wise to have something tangible to measure against, be it an enumerated score sheet, a check list or some other device. At the high school level a baseball coach might set up the following standards to use in measuring offensive abilities and offensive individual differences:

Is the player a consistent hitter, one who hits the ball frequently and has few strike-outs?

Is he dependable with runners on the bases? Does he drive in a fair share of runs?

Is he able to hit a long ball? Does he have power? Can he hit for extra bases?

Is he a *punch* hitter? Is the player a line drive type of hitter who just tries to meet the ball?

Does he hit to the opposite field frequently? Right-handed batters who hit to right field frequently usually make good second batters in the line-up. Left-handed batters who hit to left field frequently make good lead-off batters.

Is he a pull hitter? This type of right-handed hitter often hits into the double play. Left-handed pull hitters usually make good second batters in the line-up.

Is he a good sacrifice bunter? This player could be the second batter. Is it difficult for the pitcher to pitch to him? Does he get many bases on balls? Is he a good waiter who works the pitcher into a hole in the ball and strike count.

Is he a fast or a slow runner?

Is he a smart base-runner and a good slider? With these assets he might be placed higher in the line-up.

Does he have a durable nervous system and sound emotional stability? Is he cool and calm under extreme pressure? If there is any doubt about these qualities, he should be placed toward the bottom of the line-up. Some batters are at their best here.

When the manager or coach applies these standards to each of his players, he begins to see individual differences in offensive abilities which help him to formulate judgments in creating a batting order. These same differences when added up also indicate team strengths and weaknesses which will be of assistance in assembling the batting order. A coach or manager might want to bunch his fast running speed together in the batting order, or he might want to bunch or spread some of his better hitters, paricularly if they swing from the same side of the plate.

These individual offensive differences also enable the coach to place his players into general categories such as long ball hitter, best waiter, most consistent hitter, best bunter, and best base-runner.

In this way the best offensive characteristics of each player are brought to light for use in selecting the best offensive players. It is wise to list the nine best offensive individuals in the order of their offensive abilities and then evaluate this personnel again in the light of previous team evaluation. Sometimes this procedure reveals under or over evaluation. The individual evaluation may reveal more bunting ability or more base-running speed, or perhaps greater hitting ability than had been anticipated earlier. Of course, the opposite may also be true, but in any case this technique can serve as a check against prelimi-

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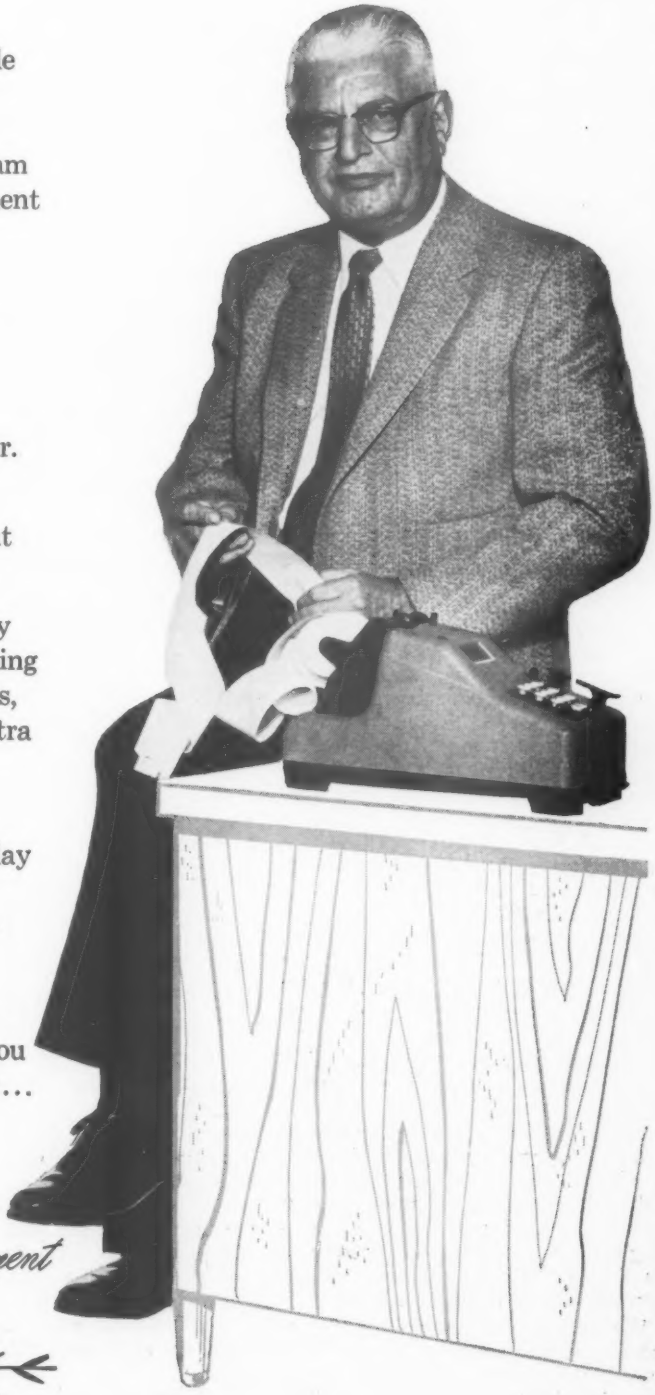

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nary opinions and/or wishful thinking.

Next, requirements for each of the batters in a mythical line-up should be set up and the player or players who meet these standards closely should be placed in that batting position in the batting order. These players should be the ones who definitely belong in the starting line-up. Only a few may be selected as really possessing the characteristics desired, but these few are the nucleus of the team's defense. The remainder of the batting order should be built around these players by inserting the next best players who most nearly meet the batting position standards. After listing the batting order, the entire line-up should be checked against the overall team evaluation and team assets to make sure that the greatest team assets are in this batting order in order to produce maximum results. In other words, the team's offensive assets are formulated through the ability of its individuals, and the individual batting order must be checked repeatedly to obtain maximum team results.

Requirements in Various Batting Positions

1. The first batter in the batting order should possess a keen eye, and be a good judge of balls and strikes. He should be an experienced player, one who knows the league fairly well, and one who has some knowledge of the opposition's pitchers. He should be a good bunter for the base hit, and a good base-runner. He should be an annoying type of batter who fakes a bunt occasionally and causes the opposing infield and the pitcher many anxious moments by keeping them guessing as to what his intentions are. He should be the type of player who seldom strikes out, thus increasing the possibility of getting on base somehow.

He must have great nervous stability in order to wait out the opposing pitcher and win *the battle of nerves* with that pitcher by taking two strikes and still being able to get on base. It is not necessary that he be small, although small players are often put into the lead-off position in the batting order because they present a small strike zone to the pitcher, and thus are harder to pitch to.

We believe a definite type of personality is required in order to be a successful lead-off batter. This player must be the type who will sacrifice his own batting average for the good of the team. He must be the cool, calm, unexcitable type of player. He must be the type who can take two strikes without losing confidence after previously being called out on strikes. He seldom receives the *green light* to hit with the count of two balls and no strikes on him or with a count of three balls and one strike. He must be compared to a *missionary worker,* always sacrificing his personal likes and success for the good of his team.

2. The second batter is in the so-called sacrifice position. He is often called upon to lay down a sacrifice bunt in order to advance the lead-off batter from first base to second base. In recent years the sacrifice bunt has assumed a role of lesser importance with the advent of the lively ball and the strategy of playing for the big inning. We feel that this strategy has been overemphasized in amateur play since most adolescents are not strong enough to be good hitters. They do not know enough about batting to be good hitters. Under these circumstances the sacrifice bunt can be used to gain a one or two run lead, and then play for the big inning later. If the big scoring inning fails, the few runs that were built up early in the game by bunting will keep the team in the ball game in the latter innings.

AUTHOR of baseball's most recent text, "Winning High School Baseball," Jim Smilgoff has written many articles, supervised technical films, and conducted training and try-out camps. He played baseball under Art Mansfield at Wisconsin and is one of the most respected baseball mentors in Chicago high school baseball circles.

The second batter should be a natural or a good right field hitter. He should be a line drive or slice type of hitter, not a free swinging, right-handed pull hitter. The latter is apt to hit into more double plays. Furthermore, a single to left field by the right-handed pull hitter often results in runners on first and second base which permits the defense to still play for the double play without giving up a run; whereas, with runners on first and third, a run would score while a double play was being consummated.

The natural right field hitter is more apt to be successful with the hit and run play.

Left-handed pull hitters also make good second batters in the batting order.

3. The third batter should be the best and most natural hitter on the team. He should be the backbone of the batting line-up. This player should be a fast runner, if at all possible, in order to hit into as few double plays as possible to end the inning. When the third and fourth batters are of equal hitting ability, the faster runner should be placed in the third position. This hitter need not be a long ball hitter, but he should be the surest hitter; the batter who gets the most hits. He must be able to drive in those all-important runs and must be a good *clutch* hitter.

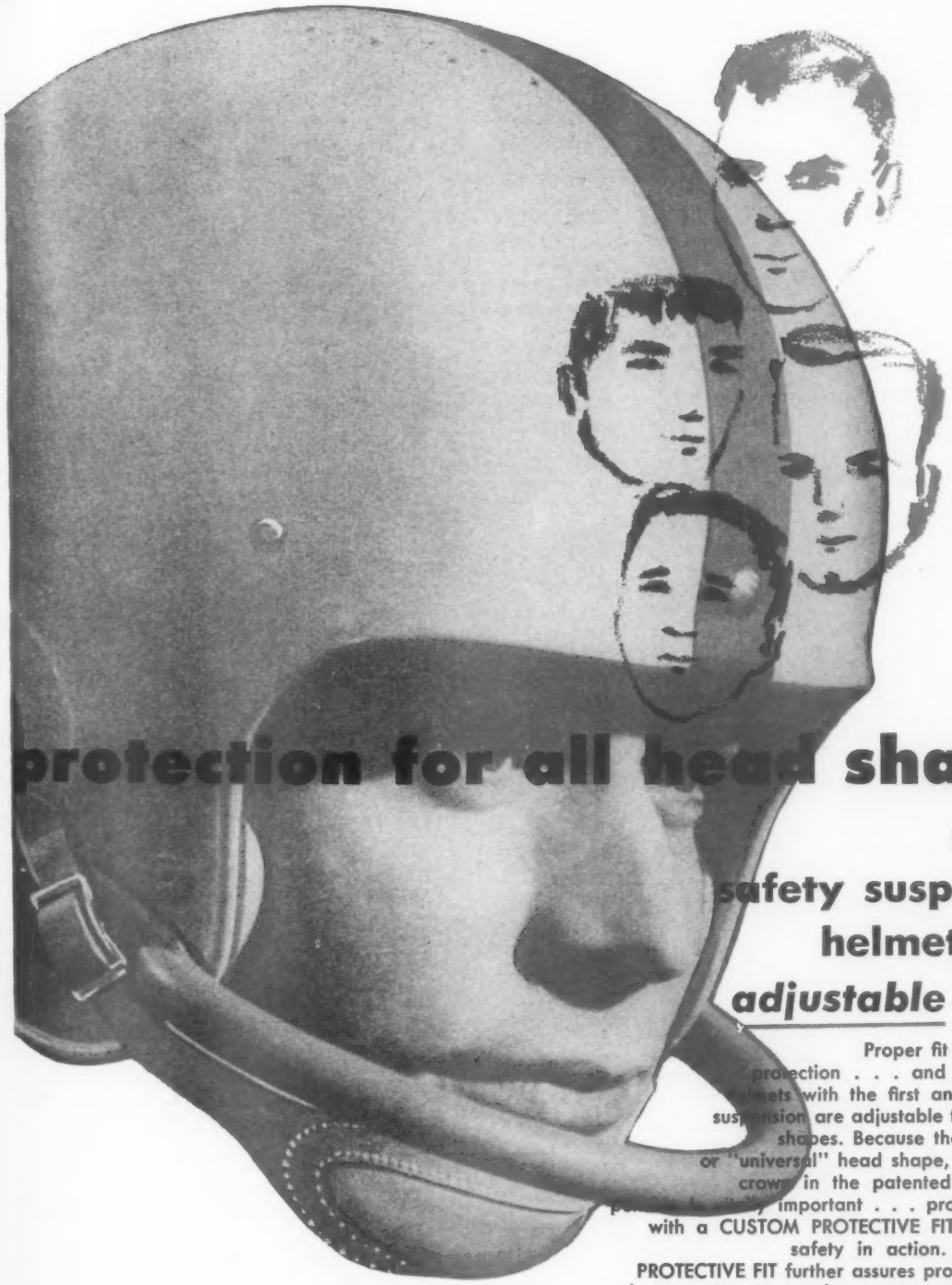
4. The fourth batter is the clean-up hitter. He is depended upon to clear the bases of existing base-runners and to drive in the most runs. This player is usually the big strong boy; the muscle man who can drive the ball farthest. However, he must be able to hit well enough to hit often, in order to warrant batting in the fourth position.

5. The fifth batter in the batting order should be the second best long ball hitter. He should be of the slugger type. This player's ability to drive in runs is of primary importance. His position in the batting order, while not as important as that of the third or fourth batter, places him in an important *runs batted in* spot.

6. If a team's personnel is strong enough to produce another long ball hitter, he should bat in the sixth position. If not, the sixth batter should be more like the lead-off batter. He should have the ability of a second lead-off batter. Since he is apt to come to bat with runners on the bases more often than the first batter in the batting order, he should be a fairly good *runs batted in* man. Good bunting and base-running speed are also required here as they are in the case of the lead-off man in the batting order.

7. The seventh batter should have batting characteristics similar to the second batter in the batting order. He may not get on base as often as the second batter, but he should be a good sacrifice bunter and be able to hit to right field. It is often a great help if he has running speed in order to try for a steal of second base with two outs. If he is successful, the eighth batter would be at the plate with a runner in scoring position. If he is unsuccessful, the number eight batter would lead off the following inning, followed by the weakest hitter who could sacrifice bunt, if the eighth batter was able to get on base.

8. The number eight man in the batting order, while not necessarily a good hitter, should try to keep from hitting into a double play to end the inning, thus keeping the number nine batter from leading off the following



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inning. The eighth batter should be able to hit to right field, and should be a good hit-and-run man. Base-running speed is exceedingly helpful here to keep from hitting into a double play, thus allowing the number nine batter either to get on base or to make the final out of the inning. In either case the team has the advantage of the lead-off batter either batting with runners on the bases or being the initial batter in the next inning.

Running speed for the number eight batter is also helpful offensively in preventing the force play on the bases on a bunt by the following batter.

9. The number nine batter in professional baseball is usually the pitcher. His position in the batting order is due to the fact that he is the greatest defensive asset on the team, and is expected to place major concentration on that asset, which, of course, is pitching. Furthermore, pitchers do not appear in the line-up as often as the other players, thus they do not gain as many batting opportunities nor as much batting experience and knowledge as those players who play daily. Moreover, should a pitcher be a good hitter in professional baseball, the manager would shudder to think of taking chances with him on base-running for fear of injury and eventual harm to the strength of the pitching staff.

In amateur baseball, where players are not as highly specialized, the pitcher is often one of the better all-around players on the team, and because of this fact he should be batting in an important position, where his hitting ability can be coordinated with the talents of the better hitters. Furthermore, in amateur baseball there is a resting period of a few days between games, thus giving the pitcher a chance to rest from fatigue and injury without the team losing his playing services.

Pinch Hitters

Now, let us think of the pitcher as the main defensive cog in the baseball machine, then list the three or four next best hitters and keep them in mind as pinch hitters. They may also rate as utility players. These players may be team members who have hitting promise; the type who are big and strong but a bit awkward. They may not run or throw well. Their fielding may be barely acceptable, yet their ability to hit fairly well makes them a valuable addition to the team. These players should be characterized by their specific abilities similar to the

(Continued on page 51)

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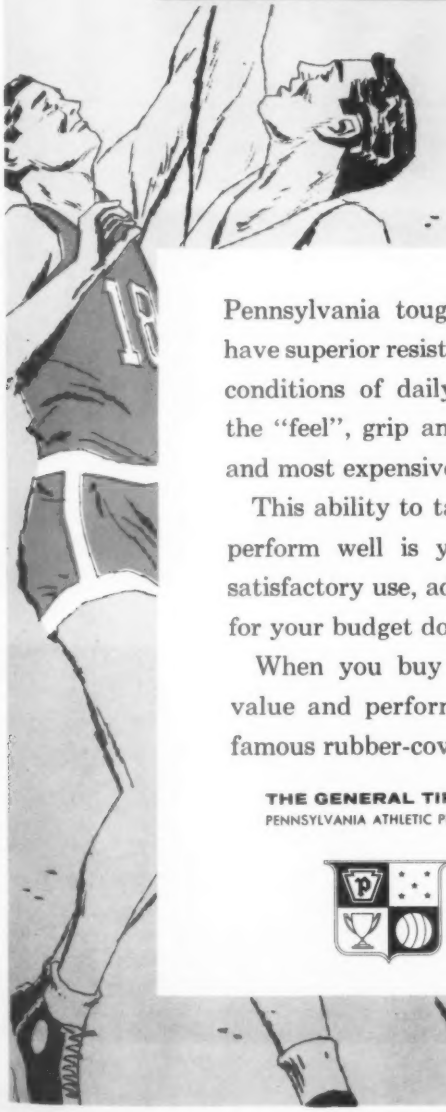

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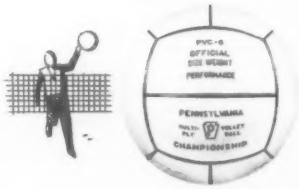

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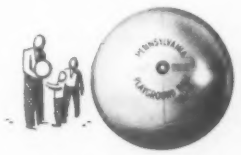

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Ball

Demonstrated by [illegible] SPEA

VOLLEYBALL FUNDAMENTALS

Captions by CURTIS R. EMERY
University of Arkansas
Author of "Modern Volleyball"

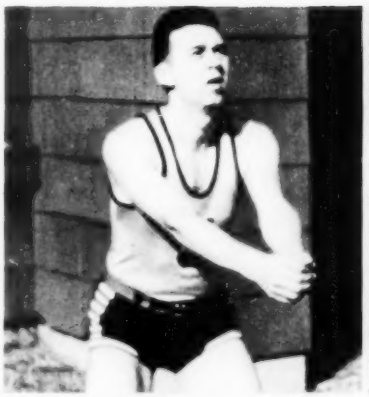
CHEST PASS

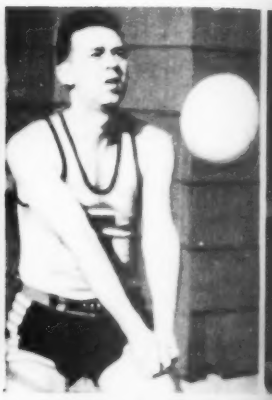
Volleyball's most important and effective method of passing. In executing the chest pass, raise the hands in front of the face with elbows elevated sideward, feet apart with eyes concentrated on the flight of the ball. The well-spread fingers are pointed upward and the thumbs downward forming a "pocket" for the ball As the ball is contacted, some of the speed and impact is absorbed by allowing the hands to give toward the body, and in one continuous movement the ball is clearly-batted with the fleshy part of the fingers and thumbs. The ball is released with a finger snap and a coordinated follow-through of the entire body.

TWO-HAND UNDERHAND

Pan American Games, United States and World's Championship play has greatly influenced the popular trend toward the closed-fist style of underhand passing. Today top-ranking teams seldom resort to the obsolete open-hand pass because of stricter interpretation of the rules, where the passer is frequently called for scooping or holding the ball.

As the pictures show, the motion of the arms in this underhand stroke is similar to the swing used in the game of "croquet". In executing this pass clench the fingers with thumbs firmly against the forefingers pointing downward, while the knuckles are pressed together and the body well balanced in a semi-crouched position. The ball is hit dead center well out in front of the body, and on the upswing of the arms the main point of contact is made on the flat outer surface of the thumbs directly below the wrist joints.



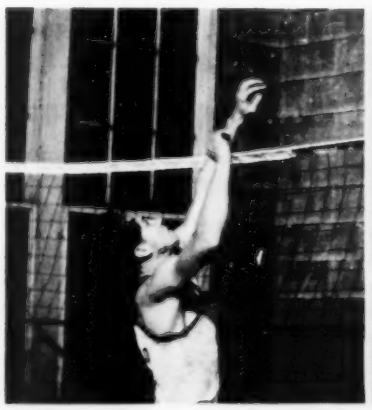


ONE-HAND UNDERHAND

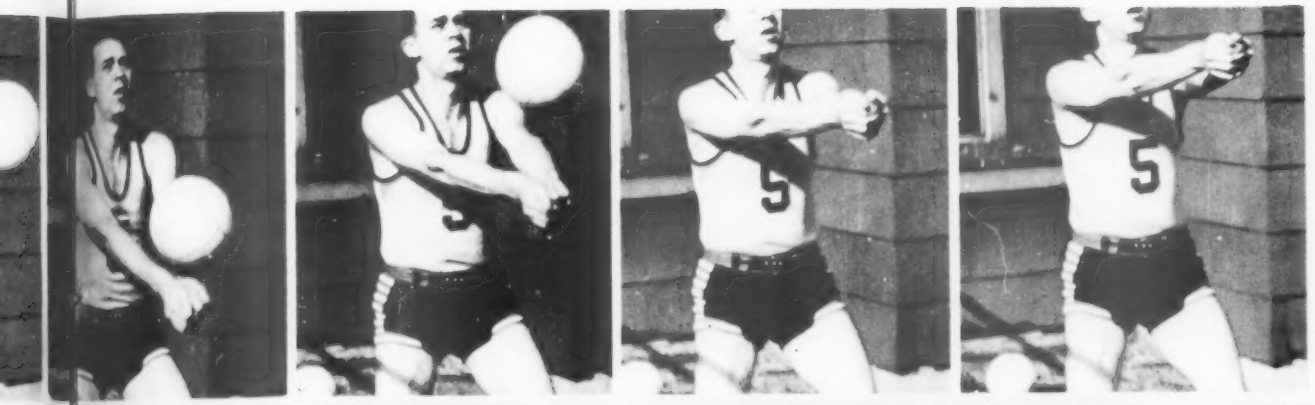
A popular and effective means of fielding a difficult ball almost out of the player's reach. When an emergency play is necessary, the player must lunge or dive to gain the terrific speed necessary in making this one-hand recovery, frequently contacting the ball a few inches from the floor. As pictured, the body is in a crouched position with the feet apart and the trunk inclined forward to play the low ball. When executing this one-hand underhand pass, the fingers are clenched and the ball is hit dead center with the heel and first knuckles of the hand the main points of contact, while the arm motion is an upward stroke directing its flight above the court.

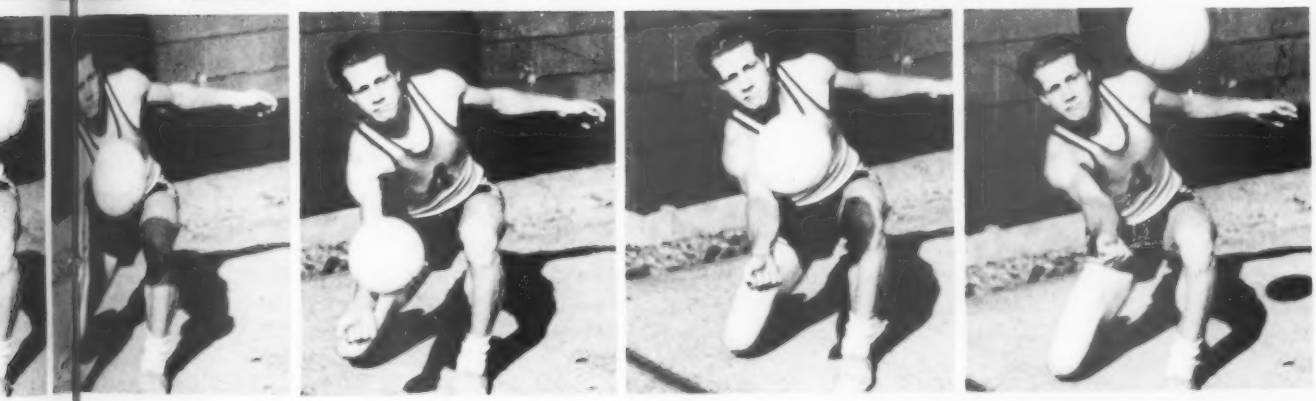
SPIKING

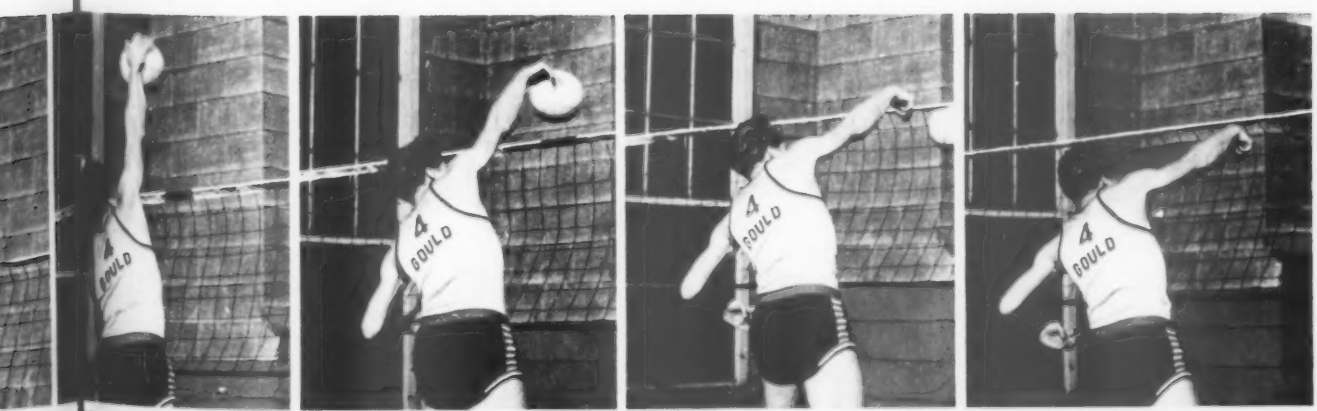
Most spectacular action in volleyball and the most difficult of all skills to master in the field of sports. This dynamic maneuver in high-powered volleyball is an effective method for scoring points by jumping into the air and hitting the ball down into the opponents' court. After making the running approach, the take-off jump is executed from both feet simultaneously, with the body lifted vertically upward. The spiking hand is brought behind the head with the elbow lifted above the right shoulder, the arm is whipped forward striking on top of the ball with contact made with the heel and palm of the open-hand. As the ball is blasted there is a powerful flick of the wrist bringing the palm of the hand down on the ball. This imparts top spin to the ball and the quick flexion of the wrist adds momentum to the kill which travels at the blazing speed of 162 feet per second.



ted by SPEJCHER and HOWIE GOULD, National AAU Champions, 1955







LETIC JRNAL FEATURE

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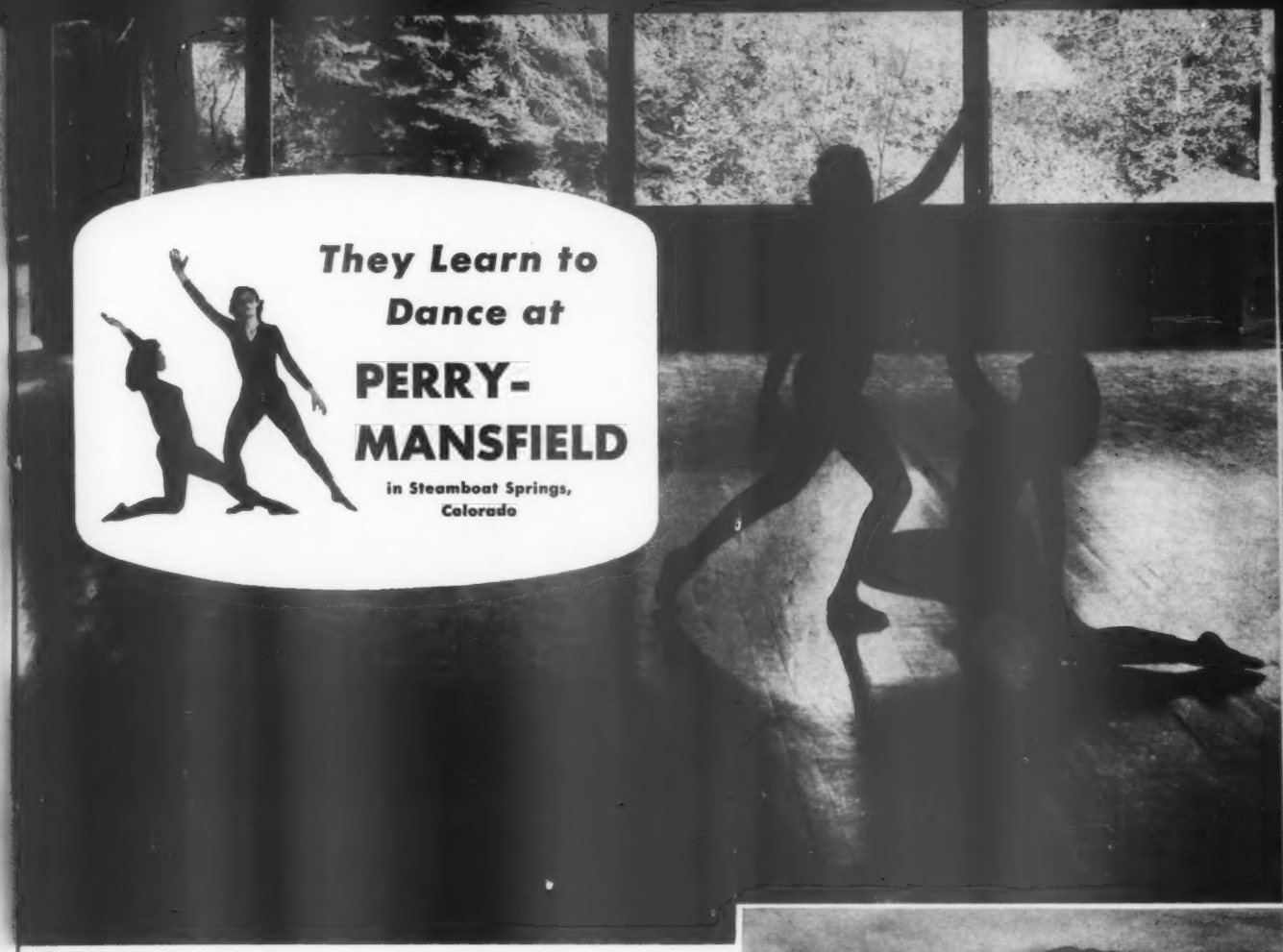
FOR YOUR BULLETIN BOARD

This is the third of our current series of "For Your Bulletin Board" features. Additional copies of this series and the two preceding series are available free of charge. They are designed to help motivate your program and are easily removed from the Journal merely by raising the staples on the preceding page and lifting out the four-page form.



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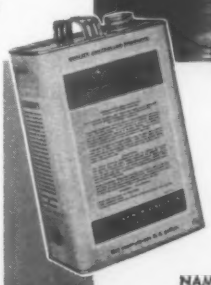

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NAME TITLE

SCHOOL ADDRESS

CITY STATE

Sharpening the Thinking for the Coming Baseball Season

By H. S. DeGroat

Director of Town and School Physical Education, Newtown, Connecticut

AS the baseball season approaches, it is necessary for many experienced coaches to sharpen their thinking in order to make the transition to another sport and adjust to its demands quickly. The coach must have his squad in the proper frame of mind before the players can play heads-up baseball.

The following questions and answers are offered so that the baseball coach may sharpen his thinking as he faces the season ahead. Perhaps a study of these questions and answers may help him in his overall baseball training program.

Straight-Away Hitting

1. Do you always play the waiting style at the beginning of a game? **Yes, in order to study the pitcher.**
2. Is it good policy to hit the first ball now and then? **Yes.**
3. Is there more straight-away hitting today than in former years? **Yes, in trying for home runs or long hits.**
4. Do you use straight-away hitting with no outs? **Yes.**
5. Do you use straight-away hitting when the team is one run behind or in case of a tie score? **Yes.**
6. Do you always use straight-away hitting when the team is two or more runs behind? **Yes, especially when the pitcher is in the hole.**

Bunting — Sacrifice

1. Do you consider bunting a very important part of the game? **Very important.**
2. Do you use the sacrifice bunt in a close game with no outs? **Yes.** With one out? **According to the ability of the next batter.**
3. Do you usually bunt down third base with a man on first? **Yes.** With a man on second? **We bunt down the first baseline.**
4. Do you sacrifice a man to third base so that he can score on a sacrifice fly? **Yes, unless the defensive men are out of position and the batter is a good hitter.**

Bunt and Run

1. Do you consider the bunt and run a good play in baseball. **Very good.**
2. Do you use the bunt and run with a fast man on first base? **We use it instead of the hit and run. A fast man goes to third base.**
3. Do you use the bunt and run in a close game? **According to the batter's ability.**
4. Do you use the bunt and run when the team is a couple of runs ahead? **Sometimes.** When the team is two runs behind? **Two runs behind means that the batter should make every effort to reach first base.**
5. If the batter is only a fair hitter, is it advisable to use the bunt and run instead of the hit and run? **No.**

Squeeze Play — Single and Double

1. Is the squeeze play a good play in modern baseball? **Yes.**
2. Do you use the squeeze play when there are no outs and a weak hitter is up? **No.** With a good batter? **No.**
3. Do you use the squeeze play with one out, and a weak batter? **Yes, to win the game.** With a good batter? **Only as a last resort.**
4. Do you advise the runner to break as in stealing home or to wait until the pitcher is delivering the ball? **Wait until he is delivering the ball.**
5. Do you advise bunting to first or third base? **Third, especially if the double squeeze is tried.**
6. Why isn't the squeeze used more in big league baseball? **Preference is given to hitting away.**

Hit and Run

1. Is the hit and run the most important offensive play in baseball? **One of the most important.**
2. Which is the more successful in college baseball, hitting behind or ahead of the runner? **Behind.**
3. Does the base-runner get the same lead and start as he does in a clean steal? **Yes.**
4. Is it advisable to hit and run with no outs and a close score? **A batter must have hit and run ability.**
5. Do you hit and run with one or two outs and a close score? **Yes, with one out.** When the score is not close? **Yes.**
6. Do you use the hit and run with a man on first and one on third? **Very seldom.**
7. Do you ever hit and run with a man on first and one on second? **Many times when the count is 3-1 on the batter.**
8. Do you ever hit and run with a pitcher on base? **Yes, if the count is 3-1.**
9. Is the best time to hit and run when the pitcher is in the hole? **It is the only time.**

Stealing

1. Why is the art of stealing bases on the decline? **The ball is too lively.**
2. Does the success of stealing bases lie chiefly in the lead and quick start? **Particularly in the quick start.**
3. Is stealing third advisable with none or one out? **One out.** With two out? **Never.**
4. Do you use the double steal with none or one out? **With one out and runners on first and second.** With two outs? **Yes, with runners on first and third.**
5. Would you say that the half bulk

FOR forty-one years H. S. De Groat has been connected with athletics and physical education, having served as baseball coach at Springfield College for a number of years before accepting his present position. He served in the army's physical training program and is publisher of the highly popular "Baseball Coaching Kit."

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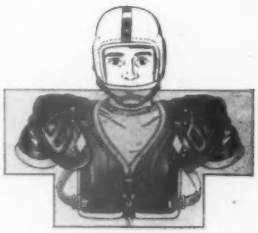

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motions of pitchers have interfered with stealing? **They should not.**

6. Is the throwing of catchers more speedy and accurate? **Yes.**

7. Have pitchers improved in holding men on base? **No.**

8. Is it easier to steal third than to stead second? **Yes; however, second is such an important base that it is seldom attempted.**

9. Do you advise stealing home? **Seldom.** If so, when? **When the count is two strikes on a weak hitter.**

Delayed Steal

1. Is the single delayed steal a good play? **No.**

2. Is the proper time for the man on first to start when the catcher is in the act of returning the ball to the pitcher? **Yes.** Or just when the catcher is throwing the ball to the pitcher? **No.**

3. Do you have the man stealing second go hard, then hold up near second, giving the man on third a chance to score, when there are runners on first and third? **This is a good play if it is properly timed and a run is needed to tie or win. The batter's ability must be considered.**

Substitute Pinch Hitters

1. Is substituting pinch hitters important in offensive baseball. **Yes, substituting good batters for weak batters.**

2. Would you substitute a pinch hitter for a pitcher who is going all right at the middle of the game? **No.** Do you believe in shifting your lineup according to left-hand or right-hand pitching? **Sometimes.**

General Defense Against Straight-Away Hitting

1. Do you use a signal on defense to let the infielders and outfielders know what kind of a ball is to be delivered to the batter? **Yes.**

2. Do you intentionally pass a dangerous batter when men are in scoring position? **If the first base is not occupied by a runner.**

3. Do you instruct your pitcher to field as many ground balls as possible? **Yes.**

4. Does your catcher always give the sign for the kind of ball to be delivered? **Not always.**

5. Do you have your catcher back up first on an infield ball with no outs? **Yes, if there are no runners in scoring position.**

Bunting

1. Do you have the second baseman or the shortstop cover second on sacrifice bunts with a runner on first? **The shortstop.**

2. Do you use the pitcher covering to his left, the third baseman covering the pitcher's right, and the first baseman playing the bag, with a runner on first? **Three men go for the ball.**

3. Do you use the first baseman and third baseman coming in to field bunts with the second baseman covering first, the shortstop covering second, and the pitcher, if needed, covering third, when there is a runner on first and no outs? **No, the catcher covers third if the third baseman fields the ball.**

4. With a runner on second and a sacrifice bunt used, do you have your first baseman coming in, the pitcher fielding all to his right, and the third baseman playing the bag? **Yes, unless the ball is bunted back of the pitcher.**

5. Do you use the same defense with first and second bases occupied and a bunt expected? **The pitcher goes to the third baseline.**

6. Do you have the shortstop hold the base-runner on second when conditions are the same as in the preceding question? **He must protect his position until the bat drops for a bunt.**

7. Do you pitch a good strike when expecting a sacrifice bunt or do you try to make them bunt a bad ball? **High strike.**

8. Do you have your catcher calling where the play is to be made on a bunt? **Yes, he is the only player who is instructing.**

Hit and Run

1. After wasting two balls expecting a hit and run, do you waste the next one? **In this situation we act according to the pitcher's control.**

2. Is your waste ball always high and outside? **The height of the catcher's shoulders.**

3. Do you find that the hit and run is played on the first ball more than on any other ball? **No, on the 2-0 or 3-1 counts.**

4. Do you allow the shortstop and second baseman to shift to see who will take the ball if it is not hit? **Yes.**

5. When do you expect the hit and run? **On counts 2-0 or 3-1.**

6. With runners on first and third, and less than two outs, do you leave both the shortstop and the second baseman open, or just one man covering the bag? **According to the batter's ability and whether he is a dead right or left field hitter.**

General Defensive Play

1. Would you leave a pitcher in if he is going bad, in the last part of the game with a comfortable lead. **No.**

2. Do you always pass a dangerous batter? **Yes.**

3. Do you have your pitchers taking their regular turn on the mound? **No, the pitcher's ability against certain teams would prompt the selection.**

The Squeeze Play

1. Do you have your pitcher throw the ball at the batter on an attempted squeeze? **Yes, at the batter's head.**

2. Do you pitch outside when expecting a squeeze? **No.**

3. Do you have your third baseman play close to the bag in order to hold the runner on? **He plays his regular position.**

4. In breaking up a double squeeze, do you have the fielder play the ball to first or bluff a throw to first? **A good bluff.**

5. Is it advisable for a pitcher to wind up and thus watch the runner when expecting a squeeze? **By all means.**

Defense for the Double Steal

1. With runners on first and third, and a double steal being attempted, do you have the catcher peg straight through? **Yes, unless a very weak batter is up.**

2. Do you ever have the catcher bluff his peg to second? **Yes, when a weak batter is up.**

3. Do you ever have the second baseman or shortstop intercept the throw and return it to the catcher? **The second baseman has better position to see the runner on third.**

4. Do you ever have the second baseman or the shortstop stay back and take a throw by himself? **Yes, if the hitter is either a dead right or left field hitter.**

5. Do you usually expect a double steal on the first ball? **We are ready at all times.**

6. Do you always instruct the catcher to peg through regardless of the score? **Yes, unless a weak batter is up.**

7. Do you use the same defense when there are two out that is used when there are less than two out? **Yes.**

8. When expecting a double steal do you have the baseman hold the runner close to the bag. **Yes.**

Defense for Stealing

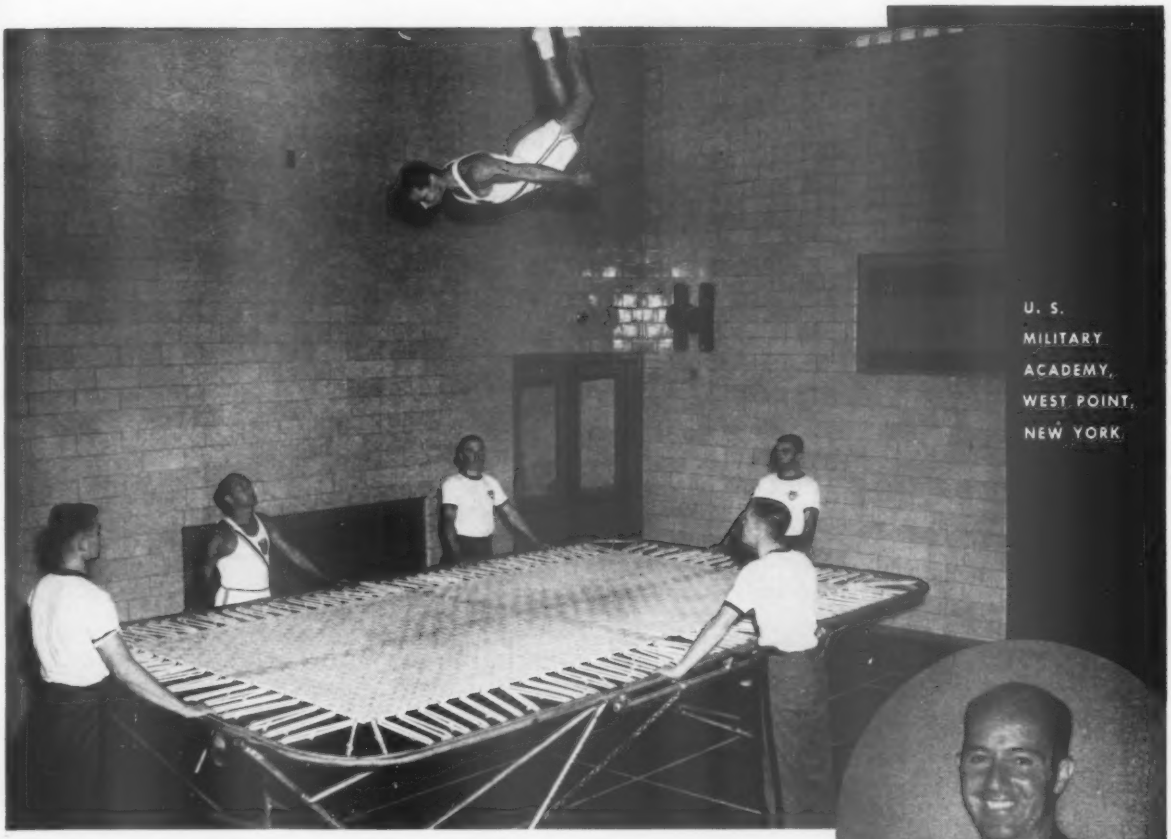
1. Is defense for stealing stronger now than it was in former years? **No, it is rather lax.**

2. Do you have the catcher or other infielder give a signal to the pitcher when a runner is taking too much of a lead? **The infielders give a signal.**

3. Does the catcher signal for the waste ball when the runner is taking too much of a lead, in order to throw said runner out? **Yes.**

4. When a runner is on second and

(Continued on page 46)



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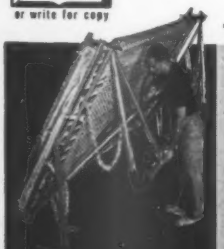

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Baseball Facilities and Equipment

By Donald C. Weiskopf
Assistant Baseball Coach, University of Idaho

THE success of any baseball program depends upon a number of factors. Certainly, a good team helps to create interest, and proper supervision will make the games more entertaining. Along with these two factors are proper facilities and equipment. Good facilities and equipment, alone, will not turn losses into wins, disinterested spectators into rabid fans, but they have proved most important in successful high school programs throughout the country.

Naturally, the quality of the facilities and equipment is dependent upon the size of the school, particularly the athletic budget. However, high-priced items can be eliminated by substituting items of lower quality or even building certain facilities in the school shop class. We are not advocating facilities of major league design. However, we do feel that all programs should have the more important items. In our list of facilities and equipment, we have included items which have became standard for all baseball programs.

Let us consider the baseball scoreboard. There are many different types of scoreboards in the country, ranging in both size and quality. Each scoreboard serves the same purpose which is to remind the fans and players of the score and inning. The important thing is not the quality of the scoreboard but whether or not the school has one.

The type and extent of the facilities and equipment should be based on the size of the budget. The items listed are commonly used in schools throughout the country. We are certainly not suggesting that in order to have a good program, the school must have all of these items. We are merely presenting a list of what could be included in the program.

Facilities and Equipment for a Baseball Program

1. Backstop
2. Scoreboard
3. Players' bench
4. Bleachers
5. Bases, home plate
6. Pitcher's plate
7. Batting cage
8. Bats (including fungo bat)
9. Balls
10. Catching paraphernalia
11. Gloves
12. Shoes
13. Uniform (cap, belt, etc.)
14. Sliding pads
15. Batter's protective helmet
16. Bat bag
17. Baseball bag
18. Roller and drag
19. Line marker
20. Training kit
21. Training room
22. Scorebook
23. Sliding pit
24. Drinking fountain
25. Batting tee
26. Pitching control target
27. Resin bags
28. Bulletin board
29. Locker room and showers
30. Motion picture projector
31. Public address system
32. Pitching robot machine

Playing Field. A well-kept baseball diamond gives a player the opportunity to play to the best of his ability. There is nothing more disgusting in the sport than to have a ball hit a rough spot on the field and bounce crazily over the head of the disappointed player. Bad bounces will occur even in the big leagues, but if a diamond is given daily attention, these crazy bounces will be kept to a minimum.

An enclosed field makes the best baseball field and will eliminate many complicated ground rules. The field should be laid out so that the sun is at the catcher's back. The shortest distance from home plate to any fence should be at least 300 feet.

The grass infield with cut-out baselines is far superior to the skinned diamond which is always muddy when it rains and dusty in dry weather. Most baseball fields have the pitcher's mound about 10 inches higher than the rest of the infield, and it should slope uniformly toward home plate and each of the baselines.

A baseball diamond should drain easily and well. Many high school games are postponed each year because the playing field is muddy and covered with areas of water. This problem can be remedied by a sound drainage system, in which both the infield and outfield are drained with tile.

Scoreboard. The baseball scoreboard serves to add interest to the game, particularly among the spectators. The fans and the players should know the score of the game at all times. Most schools use one of the following types: 1) blackboard on which the results of innings are recorded with white chalk; or 2) a numeral suspension type where painted numbers on square metal plates are suspended following the outcome of each inning.

Bleachers. Seating facilities for spectators must be provided in order to have the type of backing and interest necessary for a good program. The fan who has to sit on the ground or stand will not be a regular spectator at the games. Bleachers should be separated from the field by a rope or fence. It is advisable to obtain factory constructed bleachers or grandstands.

Backstop. The backstop is one of the most important pieces of field equipment. Well-designed backstops have been developed by our manufacturers to fit every need. However, they can be built inexpensively with large poles and wire screen.

Players' Bench. Nothing looks worse on the ball field than old, run-down benches. Too many benches are lightly constructed. A bench with a back-rest is most desirable for the players. Building the players' bench can be an excellent project for a school shop.

Batting Cage. The batting cage is a valuable asset to the baseball program. It is used to stop foul balls and wild throws. Being portable, it can be taken from the playing field after batting practice. The cage enables the

(Continued on page 66)

DONALD WEISKOPF played baseball at Illinois, graduating in 1951. He played service baseball in Japan and then was with Oklahoma City of the Texas League. Arm trouble forced him to give up his baseball career and he returned to Illinois where he received his master's. Weiskopf's thesis was on baseball facilities in two major high school conferences in Illinois and this article is based on the study. He was appointed to the staff at Idaho this past summer.

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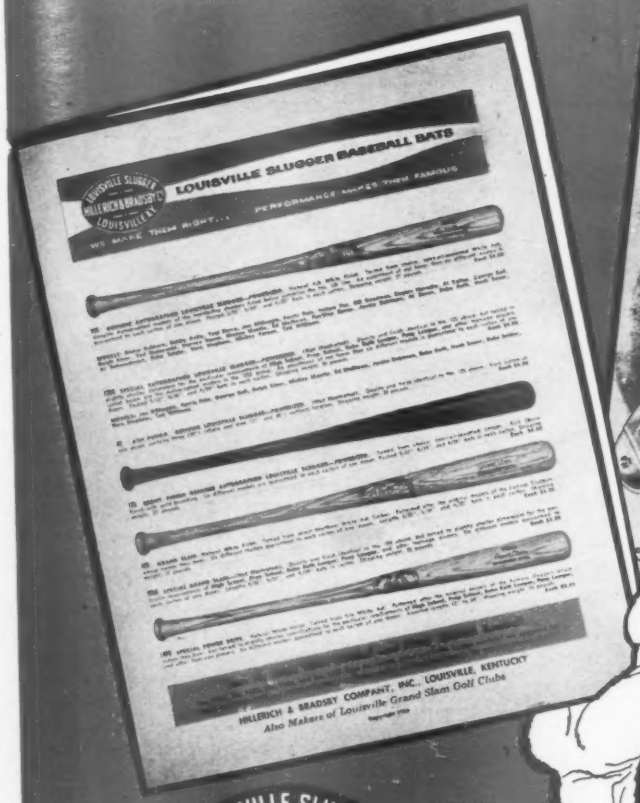
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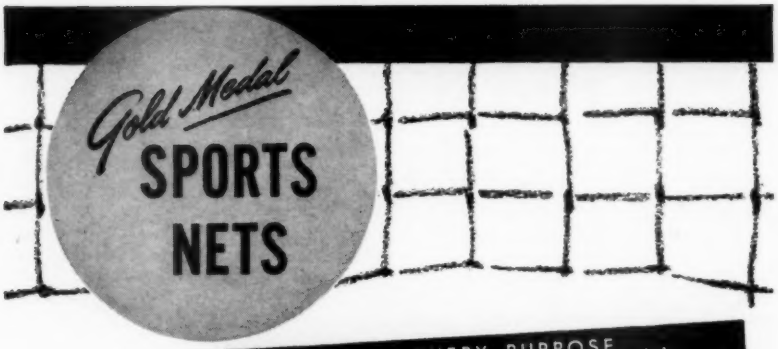

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Basketball Stadium

(Continued from page 7)

slope of the seats which eliminates the *box* appearance found in many buildings of this type. Construction costs and operating expense were cut through the use of this type of roof because there is less space to heat and less air to move in ventilating. Bedford stone was used on all four sides, conforming to the general appearance of the other uptown buildings. Black polished granite was used for the entrance. The block long building is 244 feet long and 212 feet wide, with a parking area in the rear large enough to accommodate 150 cars.

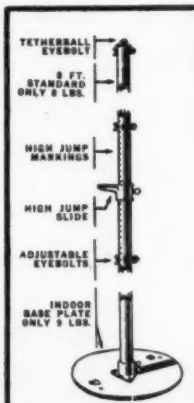
The gross area of the building is 75,970 square feet which includes the 12,100 square foot gymnasium floor. Adding the two handball courts to the gymnasium floor, over 14,000 square feet of hardwood flooring was used.

The interior of the building is divided into three levels – lower level, ground level, and upper level – with floor plans designed to utilize all available space.

On the lower level of the building is the regulation size six-lane swimming pool with men's and women's locker, shower, and dressing rooms on each side. The wall between the swimming pool and the lobby has windows so that pool events may be observed from the lobby as well as from the gallery above the windows. The gallery is entered from the ground level of the building and will accommodate 80 spectators.

In the center of the building on the lower level is the hardwood gymnasium floor. The floor is large enough for two regulation basketball courts for intramural competition and var-

(Continued on page 59)



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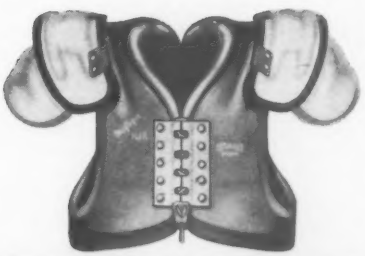

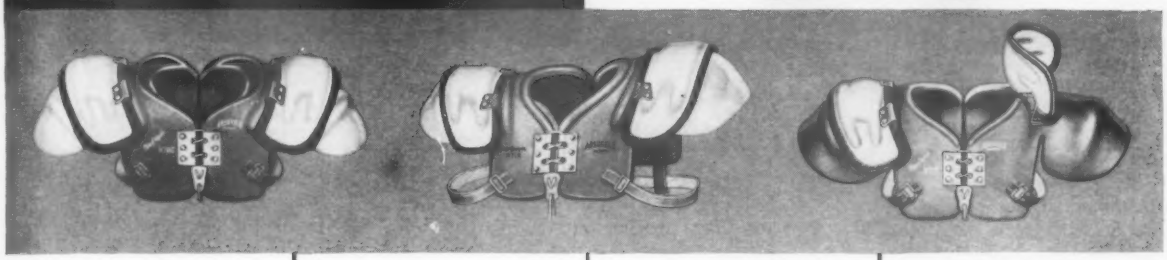

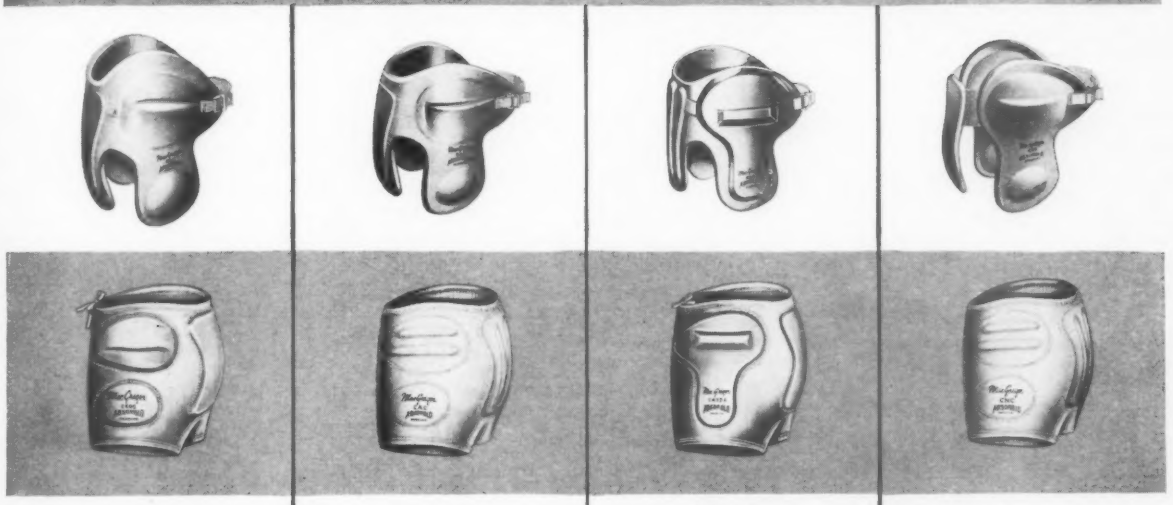

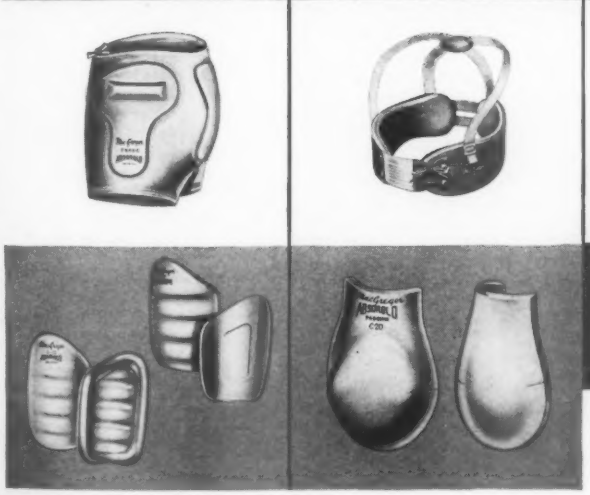

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Sharpening the Thinking

(Continued from page 40)

he tries to steal, does the shortstop inform the third baseman? **Yes.**

5. What percentage do you estimate are successful in stealing? **Less than 1 in 3.**

6. Which man is in the best position to receive a throw from the catcher, the shortstop or the second baseman? **Either one.**

7. When do you most expect a man to steal? **When a run is important.**

8. What defense do you use when you expect a steal home? **The pitcher winds up slowly, then pitches the ball outside to a left-handed batter, and at the batter if he is right-handed.**

Texas Memorial Stadium

(Continued from page 20)

September in ample time for the Longhorns to play their first grid rivals of the season, Texas Tech.

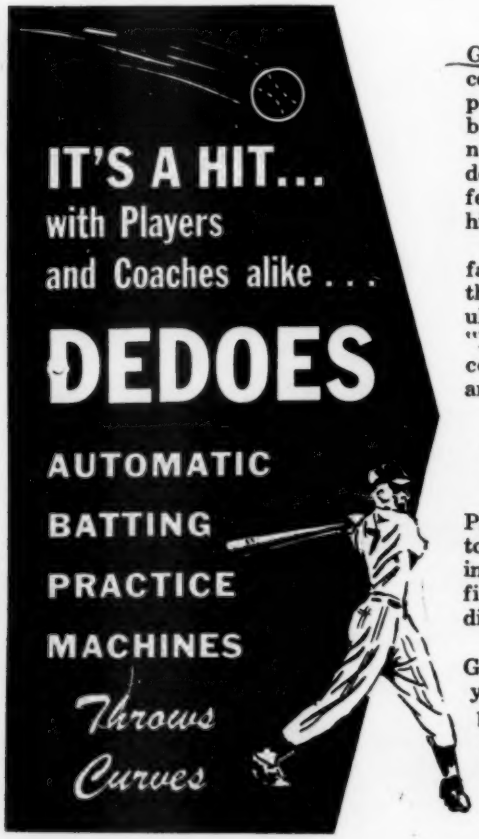
Key to the stadium floodlighting's high illumination output is the system's effective structural layout. Besides accommodating the luminaire needs of the stadium approaches and parking areas, extra effort was made to keep transformers; conduit, and other auxiliary equipment as obscure from view as possible. But the prime goal of the system's planners was to concentrate a maximum amount of light on the playing field.

There were two complementary reasons for this: the stadium's great size, and the corresponding need to light such a large area adequately. The width of the stadium, from the back edge of one side to the back edge of the other is 582 feet. The sideline stands of the stadium, which run parallel with the playing field, are 500 feet long.

Because of these dimensions only 100-foot poles could be used to allow floodlights to be aimed onto the field without causing glare to players or spectators. At the same time, the planners felt that if tall poles were necessary, the fewer used the better. As a necessary adjunct for a structure long familiar to Texas football fans, the poles – as well as the baskets of luminaires they would support – would have to blend functionally with the existing stadium architecture. Also, for maintenance purposes, fewer poles would eliminate costly, time-consuming climbing by the stadium maintenance crew to relamp or clean the floodlights.

Like other large outdoor sports arenas, Memorial Stadium presented the need not only for providing adequate floodlighting for the players, but also for the spectators sitting farthest away from the playing field. This condition almost always requires several times the amount of light found satisfactory for the players. Commonly, the recommended requirement for stadia of 30,000 capacity or over is 100 footcandles or better where the distance between spectators and the play is 100 feet or more. At Memorial, this distance between the back row onlookers and the field is 173 feet. Hence, narrow beam floodlights would be required to provide both adequate brightness and minimum glare.

With these problems in mind, the University of Texas worked out the following floodlighting system. Eight floodlight locations cover the playing field. At each location there is a concrete foundation, footed against the stadium wall, which supports two 100 foot steel poles. Each pole top is equipped with six cross arms and two service platforms. Seventy-two



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Crouse-Hinds FLA floodlights are grouped in rows of twelve along the cross arms.

Atop the eight tower locations and consuming a total of over 1,000 KW, 576 FLA 20-degree luminaires floodlight the playing field. Fifteen 80-degree lights brighten the stadium approaches and parking areas respectively. Not pole-mounted, these latter units are fastened to the top of the outer stadium wall.

Each of the steel poles – with 36 luminaires already attached to the pole cross arms – were hoisted to the tops of the concrete piers and bolted down on special concrete forms. On the west side of the stadium, these forms rise approximately 90 feet above ground level, boosting the overall height of the west bank of floodlights to about 190 feet. Due to a difference in ground elevation, the height of the east side piers is only half that of the west side foundations. But all floodlights are 170 feet above the playing field.

Raising the 3½-ton poles into place required considerable advance planning. To raise a pole vertically and steadily, lines were run from a gin-pole located at the top of the stadium and attached above the center of the pole. Hand lines and a winch truck were used to elevate the pole to the proper height and to jockey the base of the pole into position.

Pole bases are square, measuring approximately two feet per side. Through four bolt holes, each pole base fits onto 10 foot anchor bolts, imbedded in all of the piers. After the poles were secured and plumbed, the spaces between the poles and foundations were grouted with a special mixture of sand, cement, and water.

Each pole supports two service platforms, which – when aligned with the platforms of the adjacent pole – measure 23 feet long and five feet wide overall. Pre-welded and X-trussed, these platforms are bolted to the poles. To reach the platforms, one of each set of poles is equipped with conventional pole steps, allowing a service man to work on all 72 luminaires by climbing up and down a pole only once. Each pole is equipped with a rain-tight lighting panel.

A switch room for the system was constructed in the north or closed end of the stadium. A 4160 volt power service with a capacity of 1500 KW was run into the room from the utility source. Four feeder oil circuit breakers control the 4160 volts to the pole transformers.

Each floodlight has a corrosion-resistant aluminum base, slotted to allow at least a 90-degree swing of the light. Mounting bases are scaled for accurate aim settings.

A steel trunnion bracket, heavily galvanized, permits the light to be turned over for easy inspection. Attached to the trunnion bracket is a pointer used in conjunction with a scale by means of which the vertical position of the light is established. The scale is graduated in five degree increments through a range of 105 degrees. By means of a repositioning stop, a light, once adjusted, can be restored to its original position with extreme ease and accuracy after cleaning or servicing operations have been completed.

All floodlight lamps for the system, which operate an over-voltage of 10 per cent are the PS-52, 1500-watt, 115-volt, mogul base type.

Connected to the primary circuit and completely self-protecting for banked secondary service, eight transformers provide low voltage (208 Y/120 volts) to each tower.

Hidden from view by the concrete piers, the transformers are supported by concrete shelves which jut out from the inner pier walls against the exterior wall of the stadium. Protected by galvanized condulets, all conduit is also hidden from the view of spectators approaching the structure.

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New Books

Physical Education, *by Del Oberteuffer. Published by Harper and Brothers, New York* 16, *N. Y. Four hundred and seventy-nine pages. Price* $5.00. *Publication date November. Received for review Nov.* 16.

When this book first appeared in 1951 we said: "As the name implies, this is a textbook, but those who want to keep abreast of the latest thinking in the field of physical education will certainly want this book, written by one of the recognized leaders in the field."

While the emphasis in this new revision is still on the principles which should guide physical education programs, the book has been made more practical and specific.

It contains much new material on the relationship between physical education and biological science. There are new chapters on evaluation and curriculum experimentation.

So You Want To Be a Sprinter, *by Lloyd C. "Bud" Winter. Published by Fearon Publishers,* 2450 *Fillmore St., San Francisco* 15, *Calif. Forty-eight pages. Price* $1.65. *Publication date Nov.* 29. *Received for review Dec.* 3.

"Bud" Winter is track coach at San Jose State College and is currently president of the National Collegiate Track Coaches Association. His book was written for the potential sprinter and it is of such a nature that we urge every track coach in the country to buy enough copies so that each potential sprinter on his squad will have one. The book will save a great deal of coaching time and will get the various points across as clearly as actual field demonstrations will do.

Short, concise coaching facts accompany each humorously done drawing. Eleven pages of "do's" and "don'ts," a page of training, a page on types of workouts, and six pages on the training schedule for the whole season complete this highly valuable addition to track and field literature. We might add that there is a reduced price of $1.25 when the book is to be used as a textbook.

Physical Education and Athletics. *Published by the New England School Development Council,* 20 *Oxford St., Cambridge* 38, *Mass. Twenty-four pages. Price* $1.25 *for non-members of the Council. Publication date October. Received for review Nov.* 20.

Eleven prominent physical educators pooled their talents in preparing this outline. It is designed to answer a number of questions raised by the general public and school boards as to what physical education is and what direction the program should take.

Skiing Illustrated, *by John and Frankie O'Rear. Published by A. S. Barnes & Co., New York* 16, *N. Y. Ninety-six pages. Price* $3.00. *Publication date November. Received for review Nov.* 21.

The authors are noted skiers and the book portrays the techniques and skills of their young son, Jay, who received his first pair of skis at the age of twenty-two months. The introduction was written by Walter Prager, famed Dartmouth ski coach.

Safety in High School Baseball

(Continued from page 22)

Members of a team should be told to round the bases while they are advancing rather than go directly to a base and touch it, and then turn at a left angle and run to the next base. It is also advisable to tell a base-runner to put his hand behind his head and neck when a play is being made on him from the back. Many ball players have been *beaned* on attempted double plays. Players have been hit in the face on throws by the shortstop or second baseman on attempted double plays. Shielding the face from throws will avert serious head and face injuries.

Catchers should be instructed to keep the right fist closed until the

pitched ball is in the glove. Each year foul tips break the fingers of many catchers. In bunting practice the catcher should be coached to catch or stop the ball *only* with his gloved hand. Catchers should never turn their heads on fouls, and should keep chins down to avoid throat injuries. Being hit in the neck or on the side of the head is very serious.

Pitchers should be informed to finish in a *faced-off* position after a pitch has been made. If a pitcher is not in proper position to stop a hit through the box, he may be seriously injured. The pitcher can be a fifth infielder and a seasonal asset to his team if he will get into a proper fielding position after he has made his throw.

Outfielders should learn the location of stands and fences to prevent collisions. Shading the eyes will prevent fly balls from being lost in the sun or hitting fielders in the eyes or head. On a fly ball between the infield and outfield — the outfielders should take any ball that they can reasonably catch. Players should be coached to talk on all plays that are to be made. All too often there are collisions between catchers and infielders on pop flies and between infielders and outfielders on fly balls. Understanding is a great asset in baseball.

No horseplay or foolishness should be allowed on the baseball field, or in the gymnasium when practice is going on. Foolishness is contagious and should be stopped immediately.

On trips players should not be allowed to wrestle on the bus, car or train, and throwing objects should not be tolerated. Some eye and ear injuries can never be repaired. Coaches can be of great service to their players if they end horseplay on the bus, in the hotel or on the baseball diamond.

These are a few aspects of safety in baseball, and we feel if they are practiced the game will be a safer sport. In any game where there is as much activity, speed, skill, and interest as there is in baseball accidents are bound to happen. The old adage, "An ounce of prevention is worth a pound of cure," is surely related to baseball.

Although there are few deaths in baseball due directly to the game, there have been many injuries. It is the responsibility of the coach or manager to reduce the number of injuries and accidents.

Batting Order

(Continued from page 32)

players in the starting line-up. One pinch hitter might be a long ball hitter, or a good clutch hitter who can drive in those runs that win games, or he might be a good right field hitter. Another is a good sacrifice bunter. Last year we used one player almost exclusively as a sacrifice bunter in the *pinch* with gratifying results.

It is also wise to save the best pinch batter for the greatest game emergency. Pinch batters should also be rated according to their success against right-handed pitching and southpaw hurling. They should also be rated according to their potential success against different types of pitches — fast ball, curve, etc., and against different types of pitchers.

Even in amateur baseball it is often wise to insert pinch batters, runners, and fielders. The smart coach or manager has his mental notes available for use. He knows the strong and weak points of each individual member of his team, and by planning

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mythical game situations ahead of time, is able to interchange his players in order to use the abilities of his individual team members to bring success to the team.

Individual Considerations

At this point it is often worth while to add defensive abilities to offensive strengths in order to weigh various individual all-around abilities. It might be advisable to give up offensive strength in one or two positions in order to have a stronger all-around team.

In selecting his batting order, the smart manager or coach considers the greatest needs against each team before each game. Against certain teams, and against certain pitchers, maximum offensive strength may be needed in order to win, while against other teams some batting strength may have to be sacrificed at the expense of greater defensive strength since the latter may contribute more toward winning those particular games.

It would also be wise to list the best offensive batting order against left-handed pitching, and another one against right-handed pitching. In this way the greatest maximum offensive potential will be utilized in each specific game situation. Should a change in pitchers be made by the opposition, the platoon system might go into operation, whereby batters who hit from the opposite side of the plate are installed in the batting order. The platoon system, of course, involves defensive substitutions as well as offensive changes and this fact should be taken into consideration.

Left and right-handed batters should be properly spaced in the batting order so that the opposition cannot take advantage of three or four successive left-handed hitters by substituting a southpaw pitcher to face them near the end of a close game. We saw this happen last year in a major league game. With the tying and winning runs on the bases in the last inning, three left-handed hitters were next in line as batters. The opposing manager switched to a southpaw pitcher, knowing that the opposition had already used all of its right-handed pinch hitters. The pitcher retired the three left-handed hitters and saved the game. Foresight and planned thinking might have prevented this situation through a more wisely arranged batting order.

Batting orders are occasionally assembled with wind conditions in mind. With a strong wind blowing, a fly ball hitter might be moved up a notch in the line-up, or a low-average long-ball hitter might be inserted into the starting line-up under certain atmospheric conditions.

The size of the field sometimes dictates a line-up change. With a short fence toward one side of the field, the manager or coach might insert more players who hit toward that field into the line-up.

Players who have difficulty hitting against certain types of pitchers should be moved down in the line-up, or they may even be replaced in that line-up. Players who are in a batting slump should be treated similarly.

Some batters are *hot* and *cold* in their hitting. These players are streak hitters. They hit exceedingly well for a week or two, and then slough off for a week or two. Every effort should be made to take advantage of their *hot* and *cold* batting streaks when assembling the batting order.

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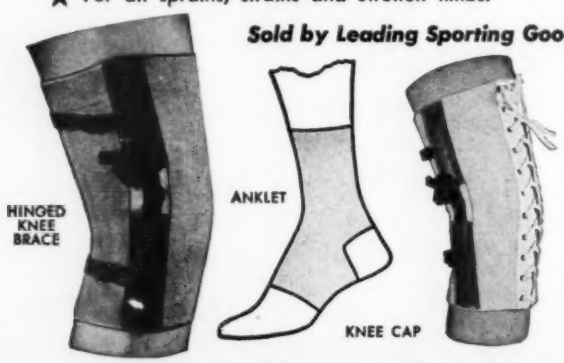

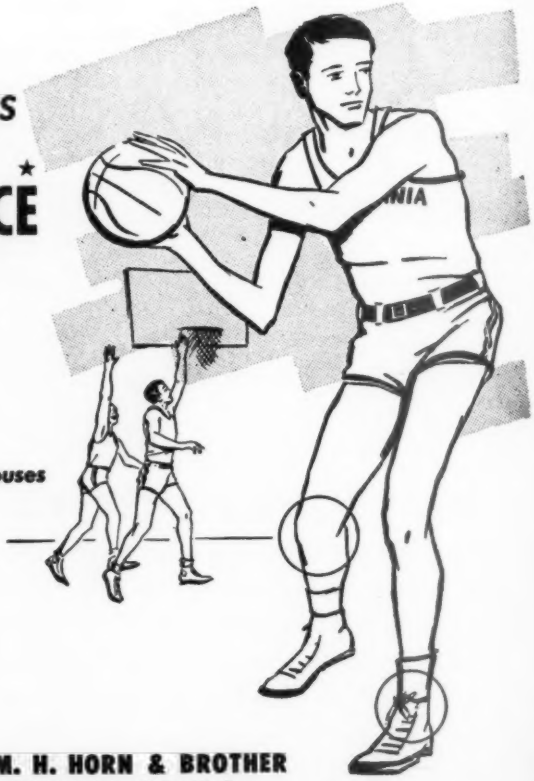

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A.J. 1-57

Pitching Machine

(Continued from page 8)

available to practice this valuable skill. Very seldom do our boys take advantage of the inside or outside pitch when hitting to vulnerable defensive areas or to hit behind the runner. If the hit and run is successful in the average high school game, it is usually a matter of luck and not because of the batter's skill in placing the ball. Longer sessions with the pitching machine will provide the experience and skill necessary for this play.

Bunting is another of the specialized abilities which is not too well taught on the average high school squad. With the pitching machine, any boy who takes sufficient time can learn to place the ball in any spot in the infield. Some of our hitters can bunt a ball only if it is in the strike zone. Here again, practice will pay off and give the batter another way to worry the defense and add points to his batting average.

Economy. The first year the pitching machine was used we were impressed by the fact that there were fewer broken bats than in previous seasons. This seemed paradoxical because there were literally hundreds more swinging opportunities than when only live batting practice hitters were used. This is another testimonial to the value of accurate pitching. More bats are broken by swinging at poor balls, either hitting on the handle or the extreme end, than are broken by not holding the trademark up. We also noticed an appreciable saving in baseballs. Here again, more balls were hit into the playing field and not fouled over the fence or into the screen of the batting cage. When players are confident of the ball coming over, they do not hit many foul balls and get good wood on most of the pitches.

Supplementary Uses. The modern pitching machine can be adapted to do more than just serve strikes to the batter. Many of these machines may be adjusted so they can be used to shoot ground balls to infielders or outfielders. Coaches have spent many hours hitting hard grounders to their outfielders, hoping to overcome a common fielding fault which can produce critical errors in a tight ball game. This practice is time-consuming and takes the coach away from other phases of the game. With the machine, a manager can aim and adjust the apparatus so that many out-

fielders will get successive fielding chances with balls that are faster. Line drives can also be sent in rapid succession to the weak spots of the fielders. Some of the machines can also be raised so they will shoot high pop flies between infielders and outfielders, giving valuable practice in another difficult fielding area.

More Fielding Opportunities. One of the most valuable fielding experiences any player may have is handling a ball hit from a delivered pitch. Balls hit by a coach during the typical infield or outfield practice are not truly indicative of a game chance. Fielders behind a mechanical pitcher get the same kind of plays they will get in a game. They will receive many more chances because balls are hit fairly and solidly. The problem many coaches have of players losing attention or fraternizing in the field during the average batting practice is eliminated. With the pitching machine, players maintain concentrated attention on every delivery to the batter.

ROGER BAER played at College of the Pacific under Alonzo Stagg. He was end coach at his alma mater for one year, then went to Ripon, California, High School, where he remained for seven years. He has been at Santa Cruz since 1945. Two years ago Baer retired from coaching to devote full time to his duties as athletic director.

Detractors of the automatic pitcher are usually those who have had limited opportunity to observe the machine in action. They usually base their objection on the grounds that the machine is an artificial robot without the body actions and timing of the human pitcher. These coaches have not seen the adjustment the average player makes in his concentration on the pitch rather than on the gyrations of the live hurler. All pitchers have different methods of delivery, and too often the player worries more about this than about the ball itself.

According to our way of thinking, we shall continue to see an increase in the number of schools and towns using pitching machines for their young players. We think coaches will now see tangible improvements in batting skills during the current season. Coaches will also be able to do more work with their substitutes as well as their regulars and will be as-

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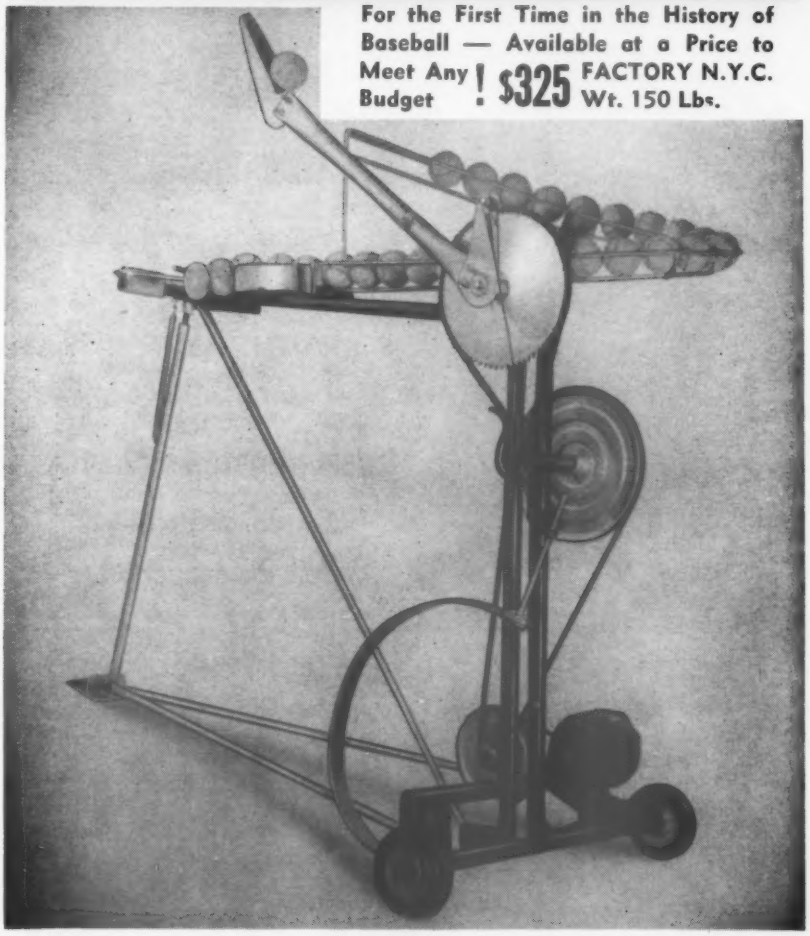

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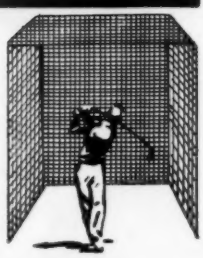

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sured of better material coming up from year to year. With the larger squads all high school coaches are going to handle, we are going to have to improvise methods of using our time economically in practice. In this respect, the pitching machine is more than an extra coach; it is equivalent to additional hours of concentrated practice time.

Shot Put Technique

(Continued from page 25)

gers. His body weight is now supported by his left leg for balance. He derives very little, if any, power from his left leg. As shown in the illustration, his left leg is not fully extended. His right leg, side, and arm are fully extended, following the explosive action of the delivery and release.

Parry's right wrist is flexed as a result of the final wrist and finger snap which was accomplished at the completion of the release. His left arm is partially flexed with the forearm across the front of his chest.

He holds his head upright with his eyes focused in the direction of the flight.

Illustration 8 shows O'Brien in the reverse or follow-through position which is the result of a quick step of his right leg which places his right foot at the toeboard. This step is necessary due to the powerful forward momentum of Parry's body in the action of the delivery. His body weight is now being supported entirely by his right leg. O'Brien's left leg is partially flexed and held upward and behind his body for the purpose of regaining balance.

His trunk is flexed forward, his head is upright, and his eyes are focused on the shot.

All of the movements of O'Brien's body and its appendages are in an effort to establish balance to prevent him from fouling.

From Here and There

(Continued from page 4)

played in an average basketball season increased? Not as much as many people might think. Taking three representative teams, Syracuse, North Carolina, and Kansas, we find that they averaged 18.8 games per season during the 20's. During the next decade the average climbed to 19.8 per season. In the 1940's it increased to 22.5 games per season, and so far in this decade the average has been 23.8 games played during the season.

Record-Breaking Miler

(Continued from page 13)

is evidenced by a comparison of the 4:28.8 winning time in 1954 with a field of runners who all came in under 4:30 in the 1956 state meet. Jim's tremendous concentration on pace running and his remarkable inherent ability have left a mark on Illinois high school runners.

Jim Bowers' modest acceptance of the honors heaped upon him reflects great credit upon the high school athletic program in general, and the example he set in every phase of his school life was an inspiration to everyone who followed him in his progress to the national record in the mile.

High School Track Meet

(Continued from page 16)

the battle with Illinois for fourth place. From the first meet the two states have waged a *nip and tuck* battle. Likewise, the race between Illinois and Ohio has been close. With the 1952 totals counted in, Ohio led Illinois by 7 points, and the next year increased it to 38. Illinois whittled the lead in each of the following meets until at the conclusion of this year's meet the margin had been reduced to 11 points.

Two years ago Kansas trailed neighboring Oklahoma by an even 50 points. Oklahoma has only been able to pick up 5 points in two meets, while Kansas has recorded 42 points, and now threatens Oklahoma's position among the first ten.

After the 1951 meet Wisconsin had a total of 76 points and was in eighth place. In the succeeding five meets Wisconsin scored only 10 points and dropped to fifteenth place.

It is interesting to notice how, in many instances, states of a certain area will be grouped together. For example, Nos. 3, 4 and 5 are the East North Central states of Ohio, Illinois and Indiana. Then come the Middle Atlantic states of New York, New Jersey and Pennsylvania. These are in turn followed by four *Midland* states, namely, Iowa, Oklahoma, Kansas and Missouri. The Pacific Northwest states of Washington and Oregon appear next.

Newcomers to the point totals this year were Arkansas, Nevada and Rhode Island. With Delaware not holding a meet, that leaves only the three New England states of Maine, New Hampshire, and Vermont plus South Carolina which have failed to

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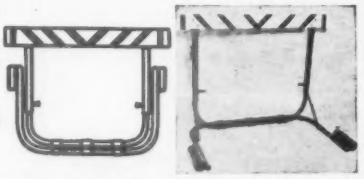

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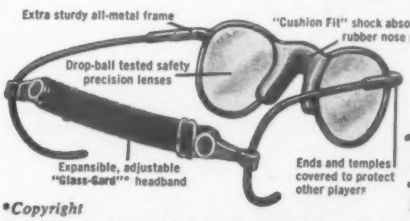
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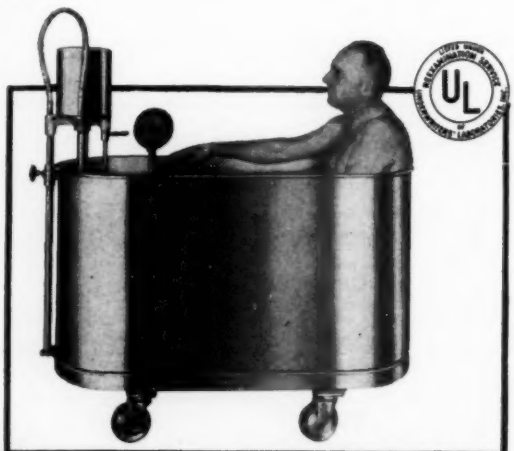

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score during the eleven years of the meet.

Sectional Averages

At the time of the first meet we grouped the states into the generally recognized sections of the country. It proved interesting and we have continued the practice each year. The points in the following table represent the averages for the first five meets, the second five meets, and the current meet.

	'47-'51	'52-'56	1957
Pacific	30.8	36.5	37.3
East No. Central	24.5	13.7	21.8
West So. Central	14.9	26.2	17.0
Middle Atlantic	15.6	19.7	10.9
West No. Central	6.5	5.3	9.6
New England	3.4	2.6	3.7
Mountain	2.7	3.0	3.2
So. Atlantic	1.5	1.4	0.5
East So. Central	0.7	0.8	0.0

There is very little change among the sections. During the second five-year period the West South Central and the Middle Atlantic sections scored more heavily than did the East North Central section. However, the current meet finds the averages more in line with those of the first five years. During the first five-year period the four leading sections scored 85 per cent of the total points. During the next five years this figure had climbed to 88 per cent. In the present meet the four leading sections had their share reduced to 83.6 per cent.

Performances

The performances showed a remarkable improvement this year. Of the 14 events considered, this year's winning times or distances were better in nine instances than last year's. The following table shows the average winning performance for the first ten years, last year, and the current meet. Last year's figures are included in the ten-year averages.

Event	10 Years	1956	1957
120 H. H.	15.28	15.10	15.02
100 Yd.	10.17	10.15	10.05
Mile	4:38.11	4:36.17	4:34.90
880 Ry.	1:33.64	1:32.86	1:32.48
440-Yd.	51.86	50.85	50.66
880-Yd.	2:02.2	2:02.5	2:00.54
180-Yd. L. H.*		20.27	20.05
220-Yd.	22.50	22.27	22.21
Mile Ry.**		3:30.29	3:29.33
Pole	11-6¼	11-7	11-9
Shot	49-6	52-6	53-2
H. J.	5-10	6-0½	6-0 2/5
Discus	142-8½	150-9	152-4
B. J.	21-5	21-8½	21-9

*Only recently has been recognized as the accepted distance for the low hurdle event.

**Mile Relay added to meet in 1946.

This general improvement is reflected in the fact that 115 new records were set. This compares with 91 in last year's meet which was the previous high. Florida and Missouri led the onslaught with six new records for

each. Arkansas, California, Connecticut, Idaho, Kentucky, New Mexico and Utah each set five new records.

The accompanying table shows the time or distance which the sixth place performer recorded in this meet and last year's meet. In the 14 events one performance was the same (the 100-yard dash) while in seven events the performance of the sixth place finisher was not as good as last year. However, the average performance for the six places in which points are awarded was better in this meet for eight events with one event being the same. As might be expected, the great amount of improvement is being made in non-point scoring performances. A comparison between this table and the preceding table clearly indicates this fact.

Event	1956	1957	Average 1956	Average 1957
120 H.H.	14.5	14.4	14.42	14.32
100	9.8	9.8	9.78	9.74
Mile	4:25.5	4:26.0	4:24.78	4:22.38
880 Ry.	1:30.3	1:30.7	1:29.60	1:29.67
440	49.5	49.1	48.83	48.50
180 L.	19.5	19.3	19.13	19.15
880	1:57.0	1:58.2	1:56.52	1:56.69
220	21.5	21.6	21.17	21.34
Mile Ry.	3:25.1	2.25.5	3:23.45	3:23.45
Pole	12-10½	12-8	13-1 2/5	13-1 4/5
Shot	57-0½	57-4	58-2	59-2
High	6-4¼	6-3¾	6-5 1/6	6-4
Discus	160-8¼	166-9¾	164-8 1/6	172-5 2/3
B. J.	23-10⅛	23-1½	23-0 1/6	23-3 1/6

California continues to dominate the Honor Roll with 58 listings as compared to 46 such listings last year. However, this fell short of the record number of 73 listings for the 1955 Honor Roll (the season of 1954). Texas is second with 24 listings and together these two states have accounted for 64 per cent of the total listings. This figure is an increase of 4 percentage points over the preceding year.

In the meet a year ago the states located in the Middle Atlantic, East North Central, West South Central and Pacific Coast regions accounted for 87 per cent of the listings. This year these same states are listed 86 per cent of the time.

In concluding this report, we want to pay our respects to Mr. E. A. Thomas who has compiled the High School Honor Roll each year for the National Federation. Mr. Thomas retires this month from his duties as executive secretary of the Kansas Activities Association.

Basketball Stadium

(Continued from page 44)

sity practice. Folding bleachers have been placed along the walls and can be moved into place for the home games of De Paul's Blue Demons. The total bleacher seating capacity then

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SAND KNIT

FOOTBALL JERSEYS AND PANTS

Knit From the New Helanca-Stretch Nylon Yarn Which Allows Material to Stretch All Directions and Always Maintain Original Shape.

- **Lightweight . . .**
- **Durable . . .**

Elastic Nylon Yarn That Cannot be Equaled!

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FREE! Newest 1956 Football Clothing catalog available on request.

SAND KNITTING MILLS CORP.

BERLIN, WISCONSIN

YOUR BEST SCOREBOARD BUY...

Naden

N-555 — the value leader of all basketball scoreboards — illuminated 30" dial, Home and Visitors Panels — automatic reset horn — 12" red "Instant-Vue" numerals — Green bullseye period indicators and signal lights. Write for details.

For information on the complete Naden line, ask for Catalog 1A, Basketball; 2A, Football; 3A, Baseball.

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WEBSTER CITY, IOWA

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PANTS

100% wool, cotton or nylon-knit; strongly made in six different styles.

SHOES

All sizes; 9 styles in canvas, leather, rubber and nylon stretch.

CHALK

Imported from Italy; extra light. Used by world's greatest gymnasts to keep hands from slipping.

. . . and a full line of approved accessories, apparatus and equipment.

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For the best and only offer of its kind in America write America's Foremost Trampoline Artist. See this unique act on three elevated tramps free plus personal instruction at no additional cost.

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Ed Steinmetz
552 Greenwich Ave.
Paulsboro, New Jersey

DOWMETAL ***Crossbars***

These triangular hollow bars are the truest, most practical, longest lasting crossbars on the market.

Now more popular than ever

• Official • Long Lasting
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Metal is patented magnesium alloy especially suited to bending.

WEIGHT AND PRICE

12′ (jumping)	2.0 lbs.	$5.95
14′ (jumping)	2.3 lbs.	6.70
16′ (vaulting)	2.6 lbs.	7.45
18′ (vaulting)	3.0 lbs.	8.20

50 cents per bar higher west of Rockies—transportation charge extra.

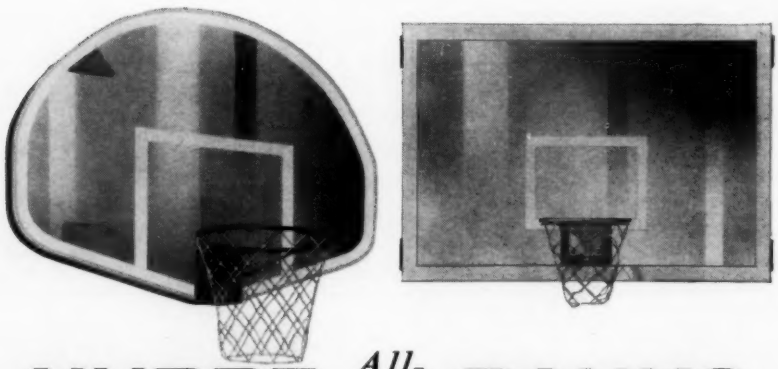
• More crossbars sold last year than ever before showing increased popularity.

Write for name of dealer nearest to you

K. & P. Athletic Co.

1115 Jerome St. Midland, Michigan

Yours for increased seating capacity, livelier rebounds, greater spectator enjoyment!



NURRE *All-Glass* **BANKS**

Eliminate those behind-the-bankboard "blind spots," and make your games more enjoyable for fans and players alike . . . with popular Nurre All-Glass Banks! Fully approved by National Basketball Committee for high school, college and professional games. Surprisingly low in cost, easy to install . . . and positively guaranteed against breakage in normal use. In fact, Nurre All-Glass Banks have served for thirty-two years . . . *and not one has ever been broken in play!*

In addition to the rectangular and fan-shaped banks shown above, Nurre offers a low-cost rectangular model with a 12″ wood panel across the bottom. Send for free illustrated booklet today. And remember to order your *goals* from Nurre, too, stating type of bank—all-glass or with wood strip.

The Nurre Companies, Inc. **Dept. AJ-17, Bloomington, Indiana**
Makers of Glass Banks since 1924

becomes 5,300. Two scoreboards were installed so that wherever a spectator sits, a scoreboard can be seen easily.

Locker, training, and equipment rooms for home and visiting teams have also been installed on this level. In addition, there are faculty locker rooms for both men and women.

Along the east side of the building, on this level, are two regulation size handball courts which extend up above the ground level. The wrestling and boxing room is large enough for a standard size ring to be set up with plenty of room to spare. Also on the east side is the small equipment storage room, the corrective room, and the large equipment storage room.

Behind the lobby on the north side of this level, storage space has been provided for chairs and other equipment such as the full stage, which can be assembled and set up for concerts and plays as it is needed. Next to the lobby is the concession area. This area is used for serving refreshments during social or athletic events. It also

Six-lane pool has 80 spectator gallery. Windows below gallery provide view of events from the lower level lobby.

has complete kitchen facilities and is used as a cafeteria for the students during the day. Next to the cafeteria is a student recreational center and dance room. The laundry and heat-

COACHES, ATHLETIC DIRECTORS

Aid your program with

1. Organization and Administration of the High School Varsity Club.

This booklet covers: 1. The Club School Service Program. 2. The Club Constitution. 3. The Club Formal and Informal Initiation Program. 4. Club Financial Program. 5. Club Organization. 6. Club Membership Requirements. Price $1.00.

2. Locker Room Slogans.

Give your team that psychological lift through the use of locker room slogans. Slogans are available in sets of 20 in assorted colors on cardboard ready for immediate use. Price $1.00.

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ATHLETIC ENTERPRISES Box 511, Big Rapids, Mich.

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New leather warm-up or cross country shoe by Spot-Bilt

super light, super flexible, crafted of KANGAROO

Spot-Bilt answers the insistent demand for a fine leather top warm-up or cross country shoe with the new Model 720 R of superb Blue Back Kangaroo. Tested and ordered by top schools, it has been received with enthusiasm. Super light, amazingly flexible, with straight foam rubber sole, it is made with Spot-Bilt's patented black nylon outside non-stretch reinforcement and has a wide heel base support. It is the only leather shoe of its type made today.

STYLE 720 R • Choice Blue Back Kangaroo, made to order. STYLE 700 R • Selected athletic tanned cowhide, in stock.

SPOT-BILT, 160 MUNROE STREET, CAMBRIDGE, MASS.

NEW ITEMS

IN EQUIPMENT AND IDEAS

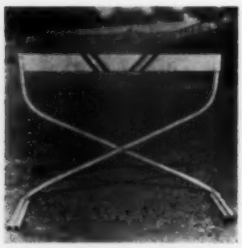
For further information see Service Coupon, page 68

A COMPLETELY revised construction process has been incorporated into this new shoe. An improved foot positioning and snug fit at the instep and through the arch minimize muscle fatigue in the legs and ankles. Another feature is the use of the flexibond process that bonds the sole of the shoe to the upper leather without stitching. This process makes possible a lighter and more flexible shoe. Wilson Sporting Goods Co., 2037 N. Campbell Ave., Chicago 47, Ill.

IN ADDITION to the original single player driving nets, there are now available styles for two or three players. They are 16′ and 24′ wide respectively. These nets, made of 100 per cent nylon, are impervious to weather and will not rot or become mildewed. They are 10′ high and 20′ long. Also of interest is the fact that nylon deadens the sound of golf balls hit into the netting. Sterling Net and Twine Co., 131 State St., Boston 9, Mass.

TO HELP with your intramural program this table tennis kit is available free of charge. The kit contains two booklets with playing hints, three tournament charts, and a complete tournament publicity campaign to use in building local interest. When the tournament tally sheet is returned, a gold medal and engraved award certificate for both boys and girls is also sent free of charge. Write to Edmond Heller, Harvard Table Tennis Co., 60 State St., Boston, Mass., or use the Service Coupon.

THIS regulation inexpensive basketball backboard assembly is designed primarily for the school with a limited budget. It is constructed of heavy ¾-inch especially treated and painted plywood. The strong iron hoop is of the latest official design, including hooks for attaching the net. Included with the assembly is a net. Richardson's, 3150 N. Sawyer Ave., Chicago 18, Ill.



THIS new regulation high school hurdle is of rust-free construction and fitted with weights which are quickly adjustable to balance either height. The hurdle folds for compact storage. It is a spill-proof hurdle of the rocker type, and sells for $12.50. A sample will be sent prepaid for $10.00 by writing Ball & Hale, 1526 Greenmount Ave., Pittsburgh 16, Pa.

View shows part of men's physical education locker room on lower level of the $2,000,000 building.

ing plant are also on this level.

Located on ground level of the building are classrooms, faculty, and general offices of the college of physical education. The alumni lounge, off the auditorium's main foyer, opens on a balcony that overlooks the playing floor and supports the auditorium organ. Offices of the athletic director and his staff are in the northeast corner of the building. Men's and women's rest rooms are situated off the east and west corridors. The entrance to the 80 spectator gallery in the upper part of the swimming pool is also located on this level.

Permanent bleachers, which are reached by transverse aisles and ramps, occupy the entire upper level of the auditorium. The heating and ventilating system is such that six changes of air can be made per hour. The lighting system provides greater lamp power than is needed for classroom work. Fifteen speakers were installed and the public address system provides excellent audio efficiency.

The total cost of the structure was $2,000,000. More than one-quarter of the necessary funds were contributed by the alumni of the university. Needless to say, the value of the new building to De Paul University and to the city of Chicago, is greater by far than the cost of construction.

Portion of men's shower room. A sturdy, tile-like finish is provided for concrete block walls by heavy, waterproof paint.

Player-Guest Plan Can Slash Athletic Budgets

By James R. Dorland

Basketball Coach,

Lehman High School, Canton, Ohio

IN a period of inflation during which time increased costs and decreased revenue can play havoc with limited budgets for interscholastic athletic programs, we were pleased to learn of a method which can be used to reduce the expenditures for overnight team trips. When this plan is used, each visiting player spends the night in the home of an opponent as a player-guest instead of being housed in a hotel.

Lehman High School, Canton, Ohio, and DeVilbiss High School in Toledo completed a home-and-home series of basketball games during the past season in which the player-guest arrangement was carried out, to the delight of everyone involved. Although there is slightly more administrative work and planning involved, the financial savings are great, and some real educational values are derived by the boys who are either visitors or hosts.

The average high school basketball team carries twelve players and one manager on an overnight trip. Estimating conservatively, the cost of

(See Page 7)

A NEW FAST AND EASY WAY TO MARK GAME LINES

Straight lines or circles for

• Basketball • Volleyball • Badminton

BOETTCHER'S RAPID GYM TAPING MACHINE

Game lines applied in a jiffy.

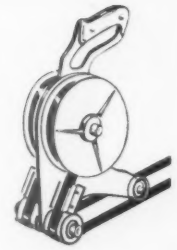
Manufactured by

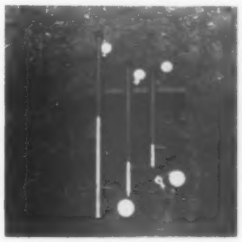
W. A. BOETTCHER & CO.

4507 N. Clark St.

Chicago 40, Ill.

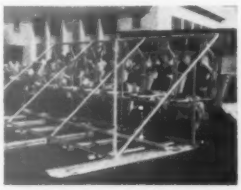
GAME lines can be marked fast and easy by this rapid gym taper which marks courts for painting in a fraction of the usual time. It lays a double strip of masking tape in straight lines or circles for basketball, volleyball, badminton, and indoor baseball courts. Sturdily built of cast aluminum with ball bearing rubber rollers, can be easily changed from one-inch to two-inch painting strips. Write for free literature. W. A. Boettcher & Co., 4507 N. Clark St., Chicago 40, Ill.





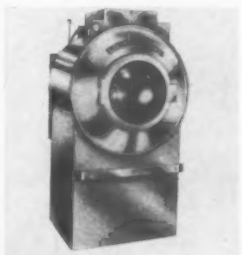
THE kit includes three "Bat-Tees" of varying heights, three red fir bases for use indoors, three plastic balls, and sells for $20.00. The plastic ball is attached to an elastic cord which eliminates any need of chasing the ball and makes it perfectly safe to use indoors. In fact, all the room required is that necessary in which to swing a bat. Single tees with or without bases are available. Bat-Tee Co., 1086 Monroe Blvd., South Haven, Mich.

THIS unique seven-man sled operates on a hydraulic principle. Flags in front of each station wave if each man is applying full force. In addition, there are seven bells which should ring in unison if the players are hitting in unison. When the timing is off, the bells ping separately. Coach Nick Kotys, Coral Gables High School, Coral Gables, Fla.



THIS colorful garment is made of 24 oz. all wool fabric with wool mixed knit cuff and band. It has a zipper front and contrast cordage on both the shoulder and the pocket. The shoulder insert is knitted and the 8 oz. all wool insulated lining is quilted to a fine rayon satin. A similar model is available as a reversible. In place of the quilted lining the reversible has satin to match the wool on the reverse side. Butwin Sportswear, Finch Bldg., St. Paul 1, Minn.

SHOWN here is the new eight-page baseball scorebook, which was prepared especially for Little League, Babe Ruth, and other leagues. The two-page center spread has the famous *Scoremaster* scoring system. Inside there is room for schedules, local advertising, and information on the teams and player personnel. The *Scoremaster* system is an entirely new way of scoring a game. Because it is so easy and fast, it is preferred by sports writers, announcers and coaches. Now the system is available to the public through these score cards. Scoremaster, Dept. E, P. O. Box 46038, Hollywood 46, Calif.



MORE and more schools are installing their own laundry systems and the "Troy Laundrite 40" is one of the most popular models. It has a capacity of 40 to 45 pounds, and features a full range temperature control through a selective thermostatic dial setting. The controls also provide automatic water level and cycle timing as well as dumping, yet they allow any change at any time by a turn of the dial. A free bulletin describing the machine is available from Troy Laundry Machinery – American Machine and Metals, East Moline, Ill.

MADE TO LAST...COST YOU LESS!

The long staple, triple-twisted two ply yarns used in McArthur Super-Gym and Super-Turk Gym Towels mean greater strength without added weight for longer service and lower laundry costs. And this quality adds up to the lowest cost - per - use towels on the market. Extra values for your towel system, McArthur's **free** towel repair service and the economical McArthur School Towel Plan. Write today . . . for complete information.

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OUTDOOR BASKETBALL BACKSTOPS BY
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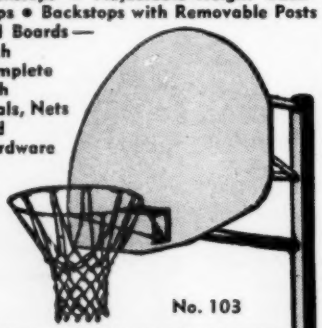
• Permanent Single or Double Board Backstops • Adjustable-Height Backstops • Backstops with Removable Posts and Boards — each Complete with Goals, Nets and Hardware



No. 103

Whatever your playground equipment problem — Aalco has the best answer when it comes to Outdoor Basketball Backstops! Schools everywhere have found that our wide variety of Backstops helped save them money, allowed flexibility of arrangement. And because each type is built for rugged durability, they deliver years of satisfactory service. For further information consult your Sporting Goods Dealer, or write us today! Illustrated, No. 103 Backboard on Single Steel Post. 2 ft. Extension Mounting Bracket welded to 3½" OD post. Fan-shaped All-Weather Backboard with No. 10-H Goal and heavy "hourglass" net. Complete with hardware. Shipping weight, 175 lbs. $63.00

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one night's lodging and two meals will be approximately $7.00 per boy. This team total of $91.00 is completely eliminated by using the player-guest plan.

In December, 1955, the Lehman basketball team traveled to Toledo to play DeVilbiss High School. We will consider that trip an example of the player-guest arrangement. Thirteen boys and three coaches made the trip. Incidentally, Lehman High School did not originate the plan. DeVilbiss High School has employed this method successfully for several years.

The group left Canton just after lunch and arrived in Toledo at 4:00 P.M. The names and ages of the players on the Lehman High School basketball team had been sent to the Toledo coaches and arrangements had been made to meet at a hotel in Toledo.

The DeVilbiss players and coaches were awaiting the Lehman team's arrival. Each boy from Canton was introduced and assigned to a Toledo player and was his guest until the team started back to Canton the following morning. During this period the visitor had dinner and breakfast with his host, was with him both before and after the game, and spent the night at his home.

JIM DORLAND graduated from Mount Union College in 1949, after earning three basketball letters. He coached basketball at North Canton High School and track at Canton McKinley High School before assuming his present position in 1953. Dorland holds a master's degree in education and a law degree from William McKinley Law School.

Without exception, players, parents, and coaches were enthusiastic in their approval of the plan. The visiting coaches stayed at a hotel, and their expenses were absorbed by the host school. Since the series was arranged on a home-and-home basis over a period of two years, each team had the opportunity of serving as both visitor and host, and each school had the same nominal expenses. There was no financial guarantee for the visiting team. In fact, when this method is used no money changes hands.

Financial expenditure is relatively small (transportation and meals en

route), therefore, a school is able to schedule more games at places which require an overnight stay. The players are happy because they always look forward to overnight trips, and the coaches are pleased because they are relieved of the burden of *shepherding* their team around a strange town.

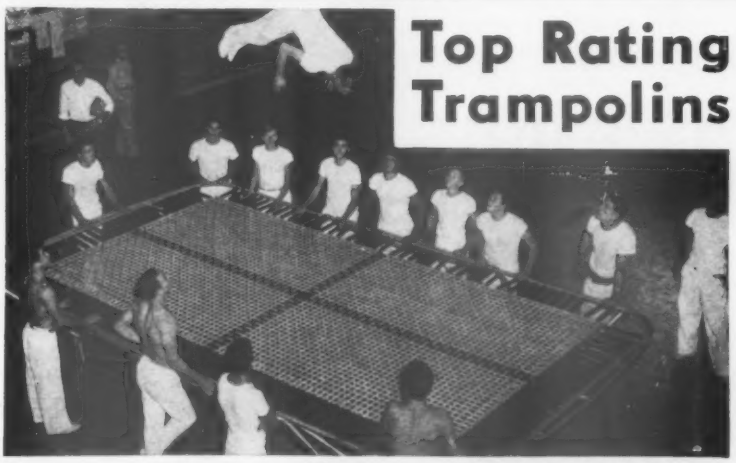
Parents approve of the arrangement because they enjoy serving as hosts to a boy who has interests similar to those of their own son. One of the intangible advantages is the friendly atmosphere that is created among the boys and coaches of the schools involved. Generally, post-game entertainment is arranged by the hosts, and the visitors have the opportunity of meeting and mingling with other young people and comparing notes about high school life in their respective schools.

Scheduling games away from home is often a headache. The player-guest plan opens new horizons to schools that cannot afford to schedule games involving an overnight stay. In order to be fair to both schools the games should be arranged on a home-and-home basis. However, this arrangement generally prevails even for games involving schools that are located close to each other. Advance planning must be made to provide adequate housing, but this problem is not a major one.

The competing schools should be similar in athletic potential and economic status. Visitors and hosts should be oriented in advance so that a desirable behavior pattern is understood by all. Parents on both sides should be consulted so that their cooperation is assured. When these preliminaries are arranged it should be possible for, "A good time to be had by all."

The player-guest plan is not offered as the ideal system to be used in solving all of the problems involved in an overnight trip. However, it does offer a fresh and novel approach to the problem of financing athletic trips. The plan has genuine merit and it has been tested and approved.

This player-guest plan may also apply to football, baseball or track teams, and even to visiting bands for football games. A financial saving is assured, and the educational advantages are numerous. The plan may be used to open vast new horizons for future athletic relationships between high schools that previously could not have considered scheduling each other. Perhaps it can be included in your program. If the player-guest plan is given a fair trial, the results should be gratifying to everyone.



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Popular Varsity Model, 9x15 ft. frame.

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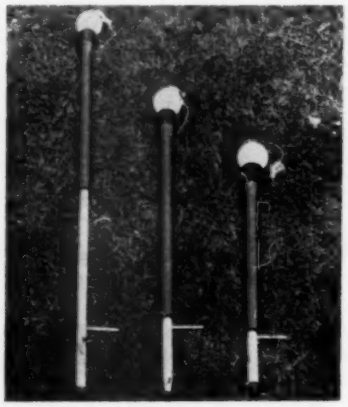

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Usable indoors and outdoors

- Economical
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- Will support baseball or softball as well as plastic ball
- Ball on strong nylon covered elastic cord.

Ideal team item; ideal noon hour or recess time item; ideal bacl yard or recreation room item for homes.
Adapts well to tennis instruction for serves and other strokes. The cord permits serving by tossing and the snap back permits return strokes.

BAT-TEE (any size) $6.95
BAT-TEE (any size without base) $4.95
BAT-TEE KIT (complete tees, 3 sizes, 1 tall, 1 medium, 1 small) $20.00

F.O.B. South Haven

BAT-TEE CO.

1086 Monroe Blvd., South Haven, Mich.

Baseball Facilities and Equipment

(Continued from page 42)

coach to stand behind the hitter and offer valuable tips and advice to him. Since the cage is placed several feet behind home plate, the batting practice pitchers have the opportunity to work off the mound. The cost of the cage is not great. A good manufactured batting cage will cost the school $150. However, they can be constructed quite easily by the Industrial Arts class. Cages are becoming standard equipment for all baseball teams.

Game and Players' Equipment. Schools should try to provide top quality baseballs, bats, and protective equipment. In most high school programs, the gloves and shoes are provided by the players, except for the catcher's and first baseman's gloves. Catching paraphernalia, sliding pads, and protective helmets for the batter should be of top quality. If it is necessary to economize, the school should economize on other items in the budget.

Sliding Pit. Sliding is one of the most important skills in baseball, yet it is often neglected in the training program. Most sliding injuries result from poor technique or the uncertainty of the player. Every player must be taught the essentials of sliding so he will develop good technique and acquire much needed confidence. Every team should have a sliding pit where this activity may be practiced. A pit about 10 feet square and 1 foot deep, filled with sawdust, is satisfactory. If a sliding pit is not available, have the boys take their shoes off and practice their form and technique on the soft grass. Sliding pads should be a part of every player's equipment and should be worn at all times.

Grounds Equipment. In order to have an attractive playing field, proper grounds equipment must be used. In most cases, all of this equipment is standard for the whole athletic program. The sprinkler will keep the grass in good shape. Use a discarded heavy wire mesh screen for grading purposes. This screen can easily be dragged over the diamond by one man. The infield should be rolled frequently with a heavy roller. Holes and low places should be filled with a hand rake. The line marker should be available to mark the foul lines, batter's box, and the coaching boxes.

Training Room. Although baseball is a non-contact sport, injuries and ailments are numerous. The severity of many injuries can be reduced by adequate training room facilities and equipment. The whirlpool bath, heat lamps, and massage table should be a part of every athletic training room. The training kit should be on the field during all practices and games. Students can be taught to serve as trainers, and through their help the burden on the coach will be lessened.

Teaching Aids. The baseball coach can do a better job of teaching with the use of various teaching aids. The bulletin board will stimulate interest and enthusiasm through the posting of pictures, diagrams, averages, and records. A motion picture projector can be borrowed to show baseball movies. These are especially effective in the early season and can be rented from various agencies. Instructional slides can be made and shown to the squad. Printed material on skills and position assignments can be given to squad members.

Indoor Facilities. Good facilities and equipment indoors can be very instrumental in producing a winning team. Most schools do their early conditioning and training in the school gymnasium. The extent and type of facilities should be in relation to the climate and seasonal changes. If the team cannot get outside until late in March, it is imperative that a good indoor program be worked out.

Indoor Batting Practice Nets. These nets are excellent, although the expense is a big factor. They are hung from the rafters and can be raised and lowered very easily. The enclosed area enables the team to have proper batting, pitching, and catching workouts.

Batting Tee. This is an excellent mechanical aid in batting. The tee aids in eliminating fundamental weaknesses and can be constructed by the Industrial Arts class.

Pitching Control Strings. These strings are very good to sharpen the pitcher's control. They form the strike zone of the hitter and enable the pitcher to throw to the corners of the strike zone. To prevent the strings from breaking too often, we recommend the use of rubber bands in connecting the string to the poles of the target.

One of the all-time great hitters of baseball, Lew Fonseca, once said: "There is only one way to learn baseball and that is to play it constantly." The learning process which Mr. Fonseca speaks about can be greatly motivated by good facilities and equipment.

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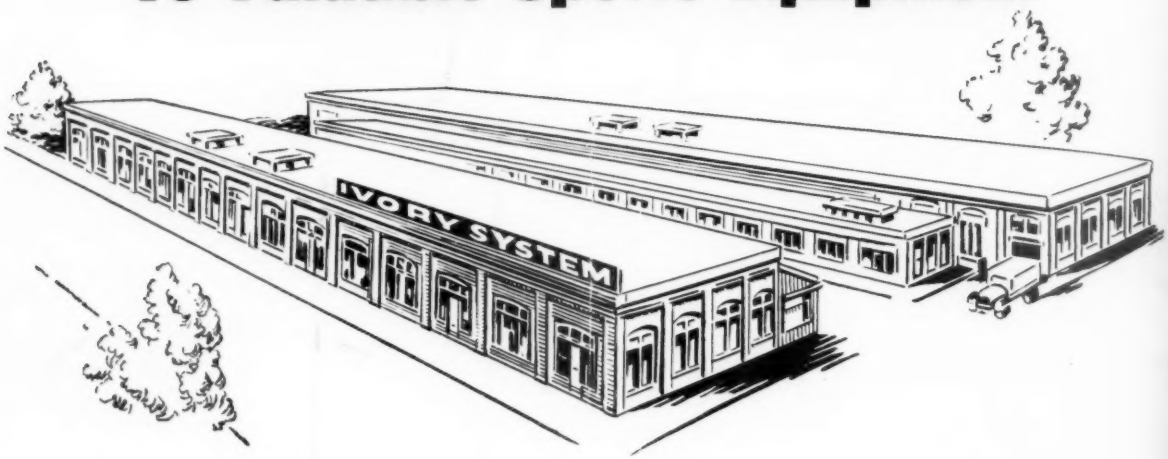

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